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ABSTRACT

The document presents the teachers guide and first five units in a preparatory reading program designed for visually handicapped children who are potential braille or large print readers. The guide explains that the emphasis is on concept development rather than braille skills development. Recommended procedures for using the program are discussed. Learning experiences, games, and lesson plans are set forth for five units: sensory matching, size, shape, action, and positions. In addition to the structured activities, each lesson also includes a pretest, posttest, and a list of experiential exercises. (CL)

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PREP

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Preparatory Reading Program for Visually Handicapped Children

TEACHER'S GUIDE and UNITS I–V

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TABLE OF CONTENTS

Volume 1

		Page
Acknowledgements		
Teacher's Guide		1
Unit I:	SENSORY MATCHING.	21
	Lesson 1: Sound/Object Match	23
	Lesson 2: Sound/Action Match	51
Unit II:	SIZE.	71
	Lesson 1: Big/Little	73
	Lesson 2: Long/Short	97
Unit III:	SHAPE	121
	Lesson 1: Square	123
	Lesson 2: Circle	147
Unit IV:	ACTION.	173
	Lesson 1: Start/Stop	175
	Lesson 2: Slow/Fast.	199
Unit V:	POSITIONS I	223
	Lesson 1: Top/Bottom	225
	Lesson 2: Left/Right	247

TEACHER'S GUIDE

Introduction

The Preparatory Reading Program for Visually Handicapped Children (PREP) has been designed to fill the need for instructional materials which teach reading readiness concepts to blind and low vision children. By the time they enter school, many of these children are developmentally behind their sighted peers, and it is crucial that this developmental lag resulting from experiential and perceptual deficits be overcome as early as possible. This is especially important in the area of concept understanding, since many concepts learned by sighted children during the daily course of events must be specifically taught to children with visual handicaps.

The PREP has been devised to introduce concepts that are basic for reading readiness to visually handicapped children who must be prepared for a formal reading program in preschool, kindergarten, or the primary grades. It can be used with children who are either potential braille readers or print readers since the focus of the program is on concept development rather than braille skills development. Since the Preparatory Reading Program is not inclusive of all the "readinesses" that a visually handicapped child must internalize before he or she can begin to learn to read, it is only one of the tools that the teacher can utilize to adequately prepare the visually handicapped child for reading.

Instructional strategies used in the PREP systematically guide students through a broad range of concrete experiences. A multisensory approach to learning is utilized to help children develop a reality-based understanding of concepts necessary for the pre-reading and reading process.

Some special features have been incorporated into the PREP materials:

- Learning exercises and games which allow children with vision deficits to broaden their experience and exploration of the environment in a systematic manner.
- Carefully sequenced lessons which fit the cognitive requirements of visually handicapped children.
- Stories which provide visually handicapped children with opportunities to develop an awareness of the relationship between the written word and spoken language.

- Raised-line illustrations of two-dimensional figures which allow the children to participate even further in the reading experience through the haptic presentation of the illustrations.
- Teacher modeling of expected behaviors which can be readily perceived by children with a severe vision loss.

The program also offers some special benefits to teachers. It provides an organized program of sensory and perception materials in one package. It enables teachers to present, in a simple way, concepts that are difficult for the visually handicapped child to understand and internalize and reduces the time needed by teachers to develop and adapt materials for this purpose. Finally, the specially constructed story books provide teachers with a tool for involving parents in their children's school program.

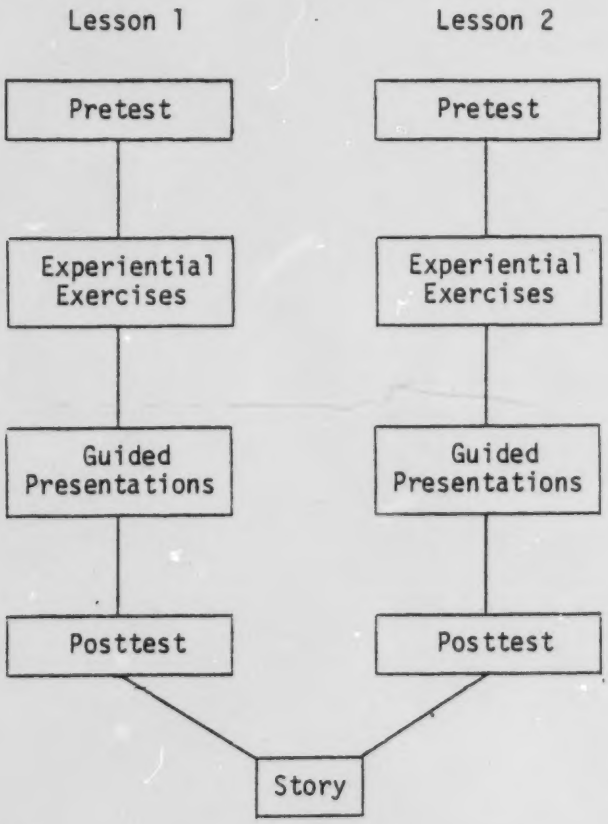
The PREP is the product of a research study carried out by the American Institutes for Research with funding from the Bureau of Education for the Handicapped.*

*Rodabaugh, B.J. and Hall, A.P. Development of a preparatory reading program for visually handicapped children. Final Report. Palo Alto, CA: American Institutes for Research, July 1978.

Recommended Procedures for Using the Program

Structure of the Program

The PREP consists of ten units, each covering a different conceptual area. There are two lessons in each unit. Each lesson contains groups of structured learning activities (called Guided Presentations) which are designed to achieve the specific objectives for that lesson. In addition to the structured activities, each lesson also has a Pretest, a Posttest, and a list of recommended activities called Experiential Exercises. For each unit there is a story, bound as a separate book, which dramatizes the concepts taught in that unit. Every unit in the program is organized as follows:



A complete list of conceptual areas and instructional objectives for all of the lessons in the PREP can be found on pages 15 to 19.

A major goal during the development of the program was to make it as complete and easy to administer as possible, so that extensive teacher training or preparation time would not be necessary. The program was also designed to take into account individual differences in students' knowledge of concepts at the time they enter school. Therefore the PREP offers flexibility in building a training program for an individual child. For example, it may not be necessary for every child to complete every exercise in the program. In addition, lessons can be modified to meet any unique learning requirements of a particular child. The basic instructional sequence and the ways in which lessons can be varied or modified follow a simple plan. These procedures and the options available to teachers are described in this section. Teachers are encouraged to read this section carefully (pages 1 to 19) before using the PREP.

The basic instructional sequence in the PREP consists of six steps. An understanding of these steps will facilitate the use of the program for individualized instruction.

STEP 1: Administer the Pretest

STEP 2: Present the Experiential Exercises

STEP 3: Introduce the Guided Presentations

STEP 4: Review Specific Exercises as Needed

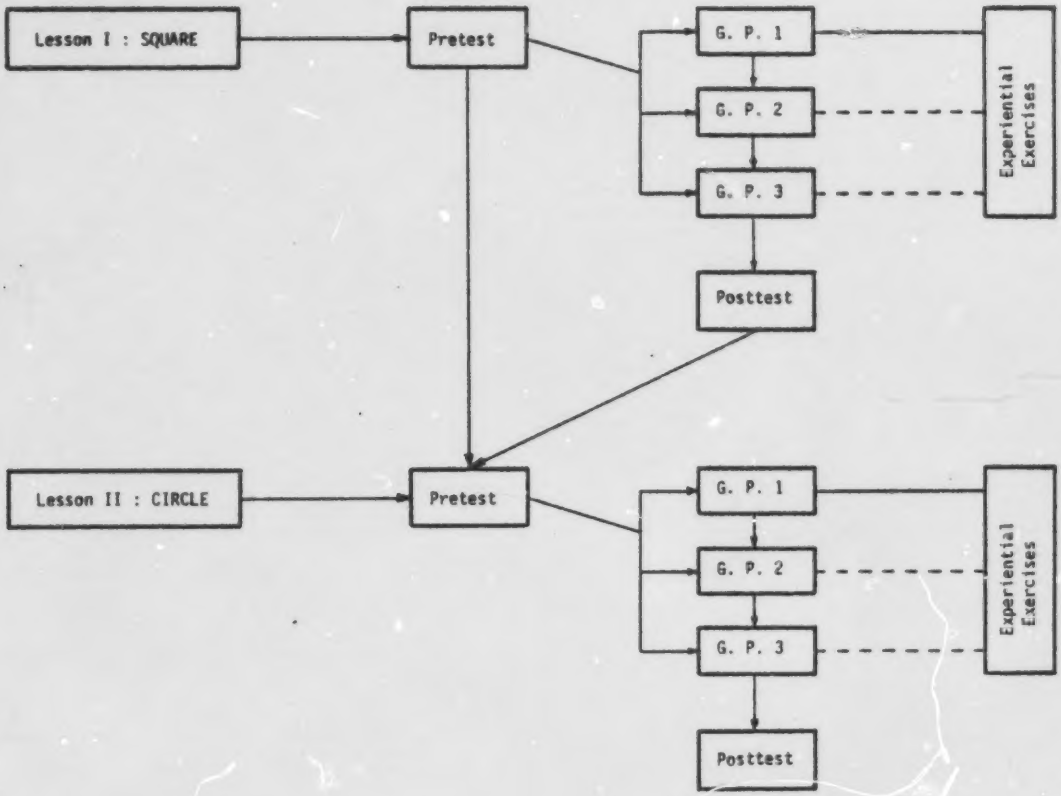
STEP 5: Administer the Posttest

STEP 6: Present the Story

STEP 1: Administer the Pretest to determine the child's knowledge of the specific concept to be taught.

The Pretest has been designed to indicate the point at which the child should begin instruction. Depending on the child's performance, instruction may begin with Guided Presentation 1, Guided Presentation 2, or Guided Presentation 3. Criterion levels are clearly described at appropriate points in the test. If the child shows mastery of the concept by correctly answering all of the pretest items, the teacher may choose to go on to the next lesson or may decide that the child will benefit from some of the experiences provided in the lesson. The alternative entry points to the lessons as determined by the pretests are illustrated in the following

diagram.



STEP 2: Present the Experiential Exercises, if indicated by the Pretest.

The teacher should make selective use of the Experiential Exercises, either to introduce the child to a concept or to reinforce the child's understanding of it. These exercises consist of games and other activities which are meant to be fun and at the same time serve a learning purpose. The teacher is free to select from among the various exercises, depending upon the materials on hand as well as the needs, interests, and abilities of the child. Additions to or modifications of the exercises to meet the varied needs of students is encouraged. These exercises can be used

on a one-to-one basis or in a small group situation. Activities described in these exercises can also be completed by parents at home or by the regular classroom teacher of a mainstreamed child to further reinforce specific concepts.

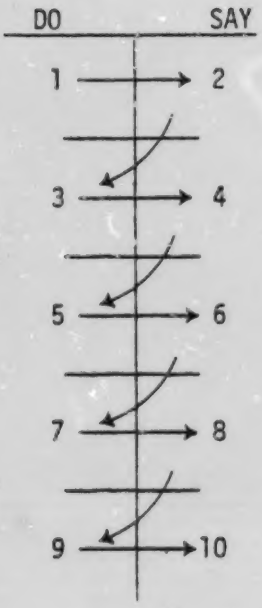
STEP 3: Introduce the Guided Presentations.

Within each lesson there are three Guided Presentations, each of which covers a well-defined learning objective. For each objective (or Guided Presentation), three or four structured teaching/learning exercises are provided. These exercises give the teacher step-by-step procedures for involving the child in concrete, and usually multisensory, learning experiences. In most cases the exercises are sequenced so that concepts are demonstrated first through body awareness activities and then through the manipulation of objects. For some lessons, the exercises lead to more abstract levels of thinking. It is important that the child have some understanding of body parts before attempting the Guided Presentations since many of the exercises utilize parts of the body for exploration and comparison.

Each Guided Presentation requires about 20 minutes to complete. An entire lesson can be covered in 60 minutes with a child of average ability. Instruction should be limited to short periods of time, and it is recommended that no more than one Guided Presentation be scheduled for any particular day. The teacher should plan to complete an entire lesson over a one-week time period.

Every Guided Presentation begins with a statement of its specific objective and its purpose, followed by a list of materials to be used in the presentation. The list has been categorized to indicate which materials are used with each exercise. Asterisks indicate those materials which are to be used for more than one exercise.

Next are the teaching/learning exercises which have been printed in two parallel columns. The column on the left side of the page tells the teacher what to do in presenting the exercise. The column on the right tells the teacher what to say to the child. The instructions should be followed in this sequence:



Throughout each Guided Presentation, the materials which belong with the appropriate exercise have been listed in small print in the margin. From time to time there are exercises which are most appropriate for the child with vision, and these are also indicated in the margin.

The teacher does not have to conduct the exercises verbatim. They are written to serve as a guide to the teacher as well as to the child. If they do not fulfill the needs of a certain child, the teacher is encouraged to adapt the lesson for that child. For example, the answers required from the children in the lessons can be altered by the teacher to fit the nonverbal or the more verbal child. It is important for the teacher to remember, however, that the language used by the visually handicapped child must be grounded in a concrete reality. If the teacher does want the child to give a more extensive verbal answer, it should be given in addition to the limited verbal or nonverbal answer required in the exercises.

Some of the language in the exercises may be altered to fit the needs of a particular child. The child may know, for example, a different word that labels a particular concept, such as "go" instead of "start" or "small" instead

of "little." In such cases, the teacher must use his or her judgment when deciding the appropriate place in the exercises to introduce the new word used in the lesson. The child may not need to go through all the exercises if it becomes obvious that the child understands the basic concept, but simply uses a different word to label it. It recently has been proposed that many visually handicapped children do not have a good understanding of personal pronouns such as "I" and "you." These pronouns have been used extensively in the exercises. The teacher should substitute names for pronouns in cases where this is a problem for the child.

Many of the verbal statements to be made by teachers when presenting the exercises are repetitious. This repetition has been purposefully built into the lessons to (a) reinforce the child's correct responses, and (b) correct the child's incorrect responses.

The sequence of the exercises has been planned so that the child is required to move from a lower to a higher level of thinking during the lessons and so that the frame of reference moves from the child's body to external reference points. For some children, especially those who are multihandicapped, it may be necessary to change the sequence of exercises to fit the unusual cognitive requirements of the child.

STEP 4: Review the Experiential Exercises and specific exercises in the Guided Presentations, as needed.

The last one or two exercises in each Guided Presentation are designed to serve as the criterion test for that segment of the lesson. If indicated by the criterion test, the teacher should have the child repeat a particular exercise or spend some additional time on the Experiential Exercises.

STEP 5: Administer the Posttest to determine whether the child has internalized the specific concepts taught.

This test should be given when the teacher feels that the child has successfully completed a lesson. The results will help the teacher decide whether the child should have further review or is ready to move on to the next unit in the program. If the child does not perform well on the Posttest, the teacher should review with the child those exercises

related to test items on which the child has difficulty. If the child does not pass a lesson's Posttest, but has been successfully working through the Guided Presentations and Experiential Exercises systematically, the teacher may decide that the child can go on to the next concept group in the program. However, the teacher is encouraged to review the Guided Presentations and continue the Experiential Exercises for this lesson during the course of the school year.

STEP 6: Present the story to the child after both lessons in the unit have been reasonably mastered.

The stories have three purposes:

- To dramatize the concepts taught in the instructional materials
- To create an awareness in the child of the relationship between the printed and spoken word
- To stimulate the child's reading comprehension and thinking skills

The storybooks are designed so that the child can feel the braille dots or look at the large print while the teacher or parent reads the story. This duplicates the process by which most sighted children learn that books contain meaningful words and ideas and that reading is the way in which the meaning is discovered.

Before reading a story to the child, the teacher should become familiar with the two sets of questions which accompany each story. The Summary questions are intended to help develop the child's comprehension skills, while the Reasoning questions are designed to stimulate thinking skills. It may be necessary to read a story to a child several times before the child is ready to answer these questions. The teacher should feel free to skip questions when they are too difficult for the developmental level of a particular child.

The child should be allowed to take the storybooks home, and parents should be encouraged to read the stories to the child. The books can be used by visually handicapped parents as well as parents with normal vision.

Use of the Suggested Materials

Most of the exercises in the program involve the manipulation of meaningful objects, rather than models of objects, on the theory that exposure to commonly used materials will greatly enrich the child's experience base. When the Guided Presentations, Pretests and Posttests call for the use of objects, the child should be allowed to carefully examine the objects tactually (and visually when appropriate) before the testing or instruction begins.

Teachers will need to spend some time in assembling the materials. A list of suggested items has been printed at the beginning of every Pretest, Guided Presentation and Posttest. It is recommended that the teacher check these lists and obtain the materials a few days before starting the lesson. Every effort has been made to keep the materials simple, inexpensive, and easy to get. However, TEACHERS MAY SUBSTITUTE ITEMS FOR THOSE LISTED, provided that the substituted items serve the purpose of the exercise.

Use of the Stories

The two-dimensional characters which have been personified in the stories may be difficult for some visually handicapped children to understand, particularly very young children (age 3 or below) or children of a comparable developmental level. In these instances, the children may not be ready for the more symbolic imagery and thought present in the stories. The teacher may want to substitute concrete objects for the raised-lined illustrations since most of the stories lend themselves quite well to this simple adaptation. However, this modification may not be enough for children who have difficulty personifying concrete objects. The stories are <u>not</u> recommended for such children but should be reserved until they reach an appropriate developmental level.

Use of the PREP as a Model for Teaching Concepts

There are many concepts which can be taught to the visually handicapped child. These lessons cover only a few of the more important ones related to reading. The list that follows is a more complete, though not exhaustive, compilation of concepts that a child must master to ensure optimal success in a wide range of academic and social skills. The teacher should consider the lessons in the PREP as models to use in developing further exercises to meet the conceptual needs of individual children.

Basic Concepts

Size

long, short
big, little
fat, thin
short, tall
wide, narrow
medium

Shape

circle
square
triangle
rectangle
oval
cross
diamond
flat
round
straight line

Weight

heavy, light

Colors

dark, light
identify colors

Actions

walk
talk
shout
whisper
read
cut
paste
write
sit
lie
skip
change
roll
throw
catch
move
fall
climb
jump
turn
spin
rub
touch
join
pull
start
stop
open
close
slow
fast
pick up
put down
raise
lower
shake

Emotions

happy
sad
angry
scared
afraid
worried
excited

Texture

smooth, rough
hard, soft
bumpy
fuzzy

Odor

identify odors

Temperature

hot, cold
warm

Positions

up, down
under, over
above, below
in front, in back
forward, backward
high, low
middle
on, next to, around
in, out
left, right
follow
across
top, bottom
far, near
parallel
here, there
inside, outside
upside down, rightside up
first, last
between

Time

before, after
first, next, last
during
beginning, end
second, minute, hour
day, week, month, year
today, yesterday, tomorrow
morning, noon, afternoon, night, evening
age
long, short (duration)

Sensations

feel
hear
smell
taste
touch
move

Seriation

size
quantity--least, most

Matching

same-different
sound-object
sound-action
object-picture

Symbolization

numbers
alphabet

Conservation

mass
weight
volume
length
number
discontinuous quantity

Classification

sorting
selecting categories
all, none, some, either, or
any, every

CONCEPTUAL AREAS AND INSTRUCTIONAL OBJECTIVES FOR THE PREP

UNIT 1: SENSORY MATCHING

The student will be able to determine a corresponding or suitably associated pair.

Lesson 1: SOUND-OBJECT

GP 1: *The child will be able to match a common object with its sound.*

GP 2: *The child will be able to match an object with its sound by selecting the object from a group of objects and manipulating the object to produce the sound.*

GP 3: *The child will be able to match an object with its sound by naming the object when presented with its sound.*

Lesson 2: SOUND-ACTION

GP 1: *The child will be able to match a body action with its sound by performing the specific body movement that produces the sound.*

GP 2: *The child will be able to match an action of an object with its associated sound.*

GP 3: *The child will be able to match an action with its sound by naming the action when presented only with its sound.*

UNIT 2: SIZE

The student will be able to identify the spatial dimensions, proportions, or extent of an object in relation to other objects.

Lesson 1: BIG-LITTLE

GP 1: *The child will be able to select the big or little object from a pair of objects that are clearly different in size.*

GP 2: *The child will be able to select the big or little object from a group of objects that are clearly different in size as well as other characteristics.*

GP 3: *The student will be able to select a big or little object from a pair of objects that are named by the teacher.*

Lesson 2: LONG-SHORT

GP 1: *The child will be able to select the short or long object from a pair of objects that are clearly different in length.*

GP 2: *The child will be able to select the short or long object from a group of objects that are clearly different in length as well as other characteristics.*

GP 3: *The child will be able to select a long or short object from a pair of objects that are named by the teacher.*

UNIT 3: SHAPE

The student will be able to identify geometric shapes by their outline.

Lesson 1:	SQUARE	
	GP 1:	*The child will be able to select a square from a pair of shapes that are different.*
	GP 2:	*The child will be able to select squares of different sizes, colors, and textures from a group of objects.*
	GP 3:	*The child will be able to select the object that is square from a pair of objects named by the teacher.*
Lesson 2:	CIRCLE	
	GP 1:	*The child will be able to select a circle from a pair of shapes that are different.*
	GP 2:	*The child will be able to select circles of different sizes, colors, and textures from a group of objects.*
	GP 3:	*The child will be able to select the object that is circular from a pair of objects named by the teacher.*

UNIT 4: ACTION

The student will be able to perform a directed activity.

Lesson 1:	START-STOP	
	GP 1:	*The child will be able to start and stop specified body movements as directed by the teacher.*
	GP 2:	*The child will be able to start and stop activities involving the manipulation of objects as directed by the teacher.*
	GP 3:	*The child will be able to indicate when an activity performed by another person or object has started or stopped.*
Lesson 2:	SLOW-FAST	
	GP 1:	*The child will be able to perform specified slow and fast body movements as directed by the teacher.*
	GP 2:	*The child will be able to perform activities involving the manipulation of objects slowly and fast as directed by the teacher.*
	GP 3:	*The child will be able to indicate whether an activity performed by another person or object is slow or fast.*

UNIT 5: POSITIONS I

The student will be able to recognize the location or place of an object at a given moment in relation to another object.

Lesson 1: TOP-BOTTOM

- GP 1: *The child will be able to identify the top and bottom parts of his or her body.*
- GP 2: *The child will be able to correctly identify the top and bottom parts of objects on a vertical plane.*
- GP 3: *The child will be able to identify objects which occupy a top or bottom position in relationship to other objects.*

Lesson 2: LEFT-RIGHT

- GP 1: *The child will be able to select those parts of his or her body which are on the left side, and those which are on the right side.*
- GP 2: *The child will be able to select the object on the left and the object on the right from pairs or groups of objects.*
- GP 3: *The child will be able to move objects to the left and to the right from a central location.*

UNIT 6: POSITIONS II

The student will be able to recognize the location or place of an object at a given moment in relation to another object.

Lesson 1: UP-DOWN

- GP 1: *The child will be able to perform up and down body movements as directed by the teacher.*
- GP 2: *The child will be able to move objects up and down as specified by the teacher.*
- GP 3: *The child will be able to determine whether an external object is in an up or down position.*

Lesson 2: OVER-UNDER

- GP 1: *The child will be able to position his or her body over or under a reference point specified by the teacher.*
- GP 2: *The child will be able to position objects over or under a reference point specified by the teacher.*
- GP 3: *The child will be able to indicate whether an object is over or under a reference point specified by the teacher.*

UNIT 7: RELATIONSHIPS

The student will be able to relate parts of objects to the object as a whole and recognize the relationship between objects that belong together.

Lesson 1: SAME-DIFFERENT

- GP 1: *The child will be able to select, from a group of objects, one object that is the same as, or different from an object presented by the teacher.*
- GP 2: *The child will be able to state whether specific pairs of objects are the same or different.*
- GP 3: *The child will be able to select the same or different objects from a group of objects presented by the teacher.*

Lesson 2: PART-WHOLE

- GP 1: *The child will be able to recognize relationships between his or her body and its parts.*
- GP 2: *The child will be able to recognize relationships between objects and their parts.*
- GP 3: *The child will be able to recognize that a part is missing from an object presented by the teacher.*

UNIT 8: TIME

The student will be able to recognize that sequential relationships exist between events.

Lesson 1: FIRST-LAST

- GP 1: *The child will be able to indicate when a given action or sound occurs first in a series of two events.*
- GP 2: *The child will be able to indicate when a given action or sound occurs last in a series of two events.*
- GP 3: *The child will be able to indicate when a given action or sound occurs first or last in a series of three or more events.*

Lesson 2: BEFORE-AFTER

- GP 1: *The child will be able to state whether one of two simple, sequential events occurred before or after the other.*
- GP 2: *The child will be able to perform activities named by the teacher in a designated before/after sequence.*
- GP 3: *The child will be able to name familiar daily events which occur before or after a given reference point in time.*

UNIT 9: CONFIGURATIONS

The student will be able to order objects by a prescribed rule.

Lesson 1: PATTERNING

- GP 1: *The child will be able to recognize tactual patterns.*
- GP 2: *The child will be able to match identical tactual patterns in a group of patterns presented by the teacher.*
- GP 3: *The child will be able to recognize a specific tactual pattern from its name.*

Lesson 2: SEQUENCING

- GP 1: *The child will be able to replicate a given sequence of objects.*
- GP 2: *The child will be able to replicate a given sequence of sounds.*
- GP 3: *The child will be able to describe a given sequence of events.*

UNIT 10: CLASSIFICATION

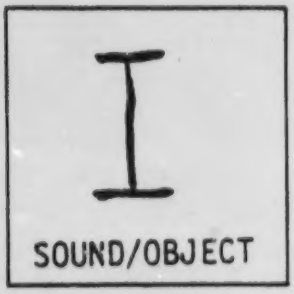
The student will be able to sort objects into categories that are perceptually apparent and be able to arrange objects into groups according to some definite plan.

Lesson 1: SORTING INTO CATEGORIES

- GP 1: *The child will be able to sort sets of objects into given categories that are named by the teacher.*
- GP 2: *The child will be able to sort sets of objects into given categories according to the general physical properties of the objects.*
- GP 3: *The child will be able to sort sets of objects into given categories according to the function of the objects.*

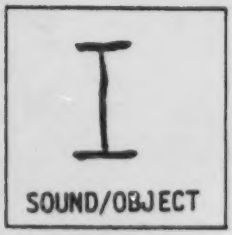
Lesson 2: SELECTING CATEGORIES

- GP 1: *The child will be able to select categories for grouping two discrete sets of objects so that each set contains objects that are exactly alike.*
- GP 2: *The child will be able to select categories for grouping two sets of objects which are dissimilar in some characteristics but which have one obvious physical property in common.*
- GP 3: *The child will be able to select categories for grouping two sets of objects according to the function they have in common.*



UNIT I : SENSORY MATCHING

LESSON 1 : SOUND/OBJECT MATCH



Pretest

Materials

an alarm clock with a distinctive ticking sound
a paper lunch bag
a small bowl of marbles
two jars half-filled with rice
two pieces of aluminum foil (about 1 square foot)
two sets of keys
a drum and a drumstick
a whistle

Test

1a. Let the child examine the clock.

SAY: "Do you know what thing makes this sound?"

b. Let the child examine the paper bag. Then rustle the bag.

SAY: "Do you know what thing makes this sound?"

c. Let the child examine the bowl of marbles. Then stir the marbles.

SAY: "Do you know what things make this sound?"

If all three items are answered correctly, go on to Question 2.

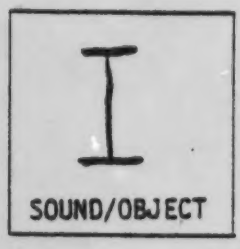
If one or more items are answered incorrectly, the child should concentrate on the SOUND-OBJECT MATCH Experiential Exercises and begin with Guided Presentation 1.

2. Let the child examine a jar with rice, a piece of aluminum foil, and a set of keys. Prepare to manipulate an identical set of items out of the child's view.

a. SAY: "Listen carefully and don't turn around. Can you make the sound that I'm making?" (Shake the jar with rice in it.)

b. SAY: "Listen carefully and don't turn around. Can you make the sound that I'm making?" (Rustle the aluminum foil.)

c. SAY: "Listen carefully and don't turn around. Can you make the sound that I'm making?" (Shake the set of keys.)



Pretest

If all three items are answered correctly, go on to Question 3.

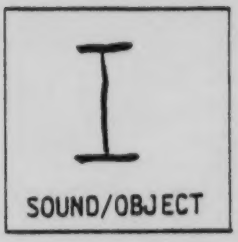
If one or more items are answered incorrectly, the child should begin with Guided Presentation 2.

3. Prepare to beat the drum, turn on the alarm of the clock, and blow the whistle out of the child's view.

a. SAY: "Listen carefully and don't turn around. What thing is making this sound?" (Beat the drum several times. Wait for response.)

b. SAY: "Listen carefully and don't turn around. What thing is making this sound?" (Turn on the alarm of the clock. Wait for response.)

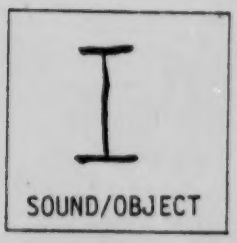
c. SAY: "Listen carefully and don't turn around. What thing is making this sound?" (Blow the whistle several times. Wait for response.)



If all three items are answered correctly, the child can go on to the next set of concepts.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 3.

Experiential Exercises



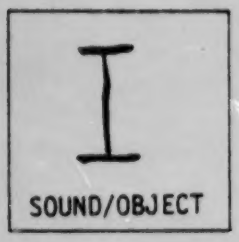
1. Take the child into a bathroom and alternate running the water from a faucet and flushing a toilet. Have the child close his or her eyes (if necessary) and identify what you are doing. Let the child examine the water faucet and the toilet.

2. Make some popcorn in a popcorn popper and emphasize the popping sound to the child.

3. Have the child close his or her eyes (if necessary). Then ask the child to identify some favorite toys that have distinctive sounds by the sound that they make. Let the child play with the toys.

4. When a familiar person is talking outside the view of the child, ask the child to identify the person who is talking.

5. Take the child on a walk outdoors and point out the distinctive sounds of cars, ambulances, fire engines, children playing, leaves rustling in the wind or on the ground, playground equipment, birds, dogs, etc.



Experiential Exercises

6. Play a tape recording or a record of different animal sounds and ask the child to name the animals that make the sounds. Take the child on a field trip to see some of the animals or bring a tame animal (such as a dog, a bird, or a cat) into the classroom.

7. Emphasize distinctive sounds related to objects in the classroom during the course of the school day.

Guided Presentation 1

OBJECTIVE: The child will be able to match a common object with its sound.

PURPOSE: These exercises will help the child learn that there is a relationship between an object and the specific sound it produces when manipulated.

MATERIALS:

Exercise A

a zipper

an article of clothing with a zipper

Exercise B

a radio

Exercise C

a braillewriter with paper or a typewriter with paper (depending upon the probable reading mode of the child)

Exercise D

*an article of clothing with a zipper

*a radio

*a braillewriter with paper or a typewriter with paper

I

SOUND/OBJECT

G.P.1
Exercise A

Present the zipper to the child.	"Do you know what this is? Feel it." (Wait for response.) "It's a zipper."

---

a zipper

an article of clothing with a zipper

Present the piece of clothing with the zipper to the child.	"Usually a zipper is a part of something we use. Here is a (name clothing) that has a zipper in it. Feel the zipper." (Wait for response.)

Take the zippers from the child, then zip one of them up and down several times.	"Do you know what that sound is?" (Wait for response.) "It's the zipper. I was moving it."

Help the child zip and unzip one of the zippers several times.	"Now it's your turn to make the sound. Here's a zipper."

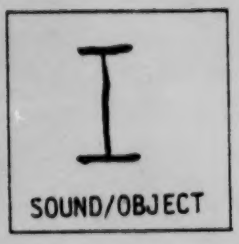
32

G.P.1
Exercise B

I
SOUND/OBJECT

Present the radio to the child.	"Do you know what this is? Feel it." (Wait for response.) "It's a radio."
Take the radio from the child, then turn the dial to a station with music.	"Do you know what that sound is?" (Wait for response.) "It's music from the radio. I turned it on and changed the station until I found some music."
Turn off the radio. Then help the child turn on the radio and find some music.	"Now it's your turn to make the sound. Here's the radio. Can you find some music?"

a radio

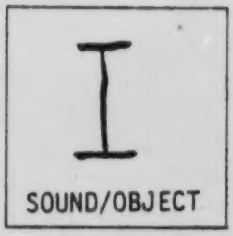


G.P.1
Exercise C

a braillewriter or typewriter with paper

Present the braillewriter or the typewriter to the child.	"Do you know what this is? Feel it." (Wait for response.) "It's a (name machine)."
Take the machine from the child, then braille or type with it.	"Do you know what that sound is?" (Wait for response.) "I'm writing with the (name machine)."
Show the child the braille or print.	"Do you want to see what I wrote? Take a look."
Put more paper in the machine. Then help the child press on some keys. Give the child the paper to keep.	"Now it's your turn to make the sound. Here's the (name machine)."

G.P. 1
Exercise D



Prepare to use the radio.
Turn on some music.

"Do you know what makes this sound?" (Wait for response.)

"A radio."

Prepare to use the zipper.
Move it up and down several times.

"Do you know what makes this sound?" (Wait for response.)

"A zipper."

Prepare to use the braillewriter or typewriter.
Write something with the machine for about thirty seconds.

"Do you know what makes this sound?" (Wait for response.)

"A (name machine)."

- a radio
- a braillewriter or typewriter with paper
- a zipper

The child should be able to identify all three objects in Exercise D without help from the teacher.

If the child is unable to identify all three objects, review the SOUND-OBJECT MATCH Experiential Exercises and repeat Guided Presentation 1.

I

SOUND/OBJECT

Guided Presentation 2

OBJECTIVE: The child will be able to match an object with its sound by selecting the object from a group of objects and manipulating the object to produce the sound.

PURPOSE: These exercises are designed to help the child learn to discriminate between objects on the basis of the sounds they produce.

MATERIALS:

Exercise A

two handbells
two jars with screw-top lids
two full boxes of cereal

Exercise B

two small cellophane bags of potato chips
two 6-ounce cans of juice
two paper bags containing some coins

Exercise C

*two handbells
*two paper bags containing some coins
*two cellophane bags of potato chips

(continued)

G.P.2

I

SOUND/OBJECT

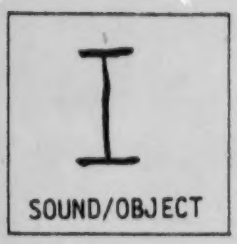
MATERIALS: (continued)

Exercise C (continued)

*two 6-ounce cans of juice

*two jars with screw-top lids

*two full boxes of cereal



G.P.2
Exercise A

Present one handbell, one jar, and one box of cereal to the child. Guide the child's hands to each object as you talk.

"Here are some things to feel. Here is a bell, here is a jar, and here is a box of cereal."

---

two handbells
two jars with screw-top lids
two full boxes of cereal

Help the child find the bell and perform the operations, if necessary.

"Can you ring the bell? Can you hear the sound it makes? Ring the bell again and listen."

Help the child find the jar and perform the operations.

"Can you open the jar? Do you hear the sound of the lid as you open the jar? Now close the jar and open it again. Listen to the sounds."

Help the child find the box of cereal and shake it, if necessary.

"Can you shake the cereal box? Do you hear the sound of the cereal inside the cardboard box? Shake the cereal box again and listen."

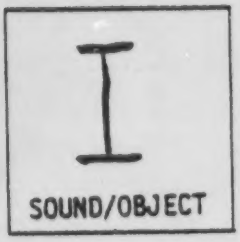
Prepare to manipulate the objects in the activities that follow so that the child cannot see them.

"Now I'd like to hear you make the sound that I'm making. Don't turn around."

(continued)

G.P.2

Unscrew and screw the lid on the second jar out of the child's view. Help the child if necessary.	"Can you make this sound?" (Wait for response.) "It's the jar."
Ring the second bell out of the child's view. Help the child if necessary.	"Can you make this sound?" (Wait for response.) "It's the bell."
Shake the second box of cereal out of the child's view. Help the child if necessary.	"Can you make this sound?" (Wait for response.) "It's the cereal box."



G.P.2
Exercise B

two small cellophane bags of potatoe chips

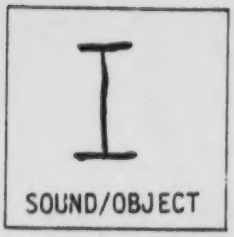
two 6-ounce cans of juice

two paper bags containing some coins

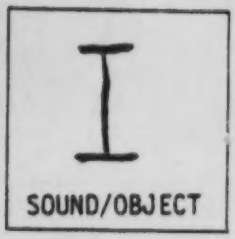
Present one bag of potato chips, one can, and one paper bag to the child. Guide the child's hands to each object as you talk.	"Here are some things to feel. Here is a bag of potato chips, here is a can of juice, and here is a paper bag with money inside."
Help the child find the bag of potato chips and press repeatedly on it.	"Can you press on the bag of potato chips? Do you hear the sound of the paper and the chips? Press on the bag again and listen."
Help the child find the can of juice and shake it.	"Can you shake the can of juice? Do you hear the sound of the juice inside the metal can? Shake the can again and listen."
Help the child find the paper bag and shake it.	"Can you shake the paper bag with money inside? Do you hear the sound of the money inside the paper bag? Shake the bag again and listen."
Prepare to manipulate the objects in the activities that follow so that the child cannot see them.	"Now I'd like to hear you make the sound that I'm making. Listen carefully and don't turn around."

(continued)

G.P.2



Shake the second can of juice out of the child's view. Help the child if necessary.	"Can you make this sound?" (Wait for response.) "It's the can of juice."
Press repeatedly on the second bag of potato chips. out of the child's view. Help the child if necessary.	"Can you make this sound?" (Wait for response.) "It's the bag of potato chips."
Shake the second bag of coins out of the child's view. Help the child if necessary.	"Can you make this sound?" (Wait for response.) "It's the paper bag with money inside."



G.P.2
Exercise C

two hand bells

two paper bags containing some coins

two cellophane bags of potato chips

two 6-ounce cans of juice

two jars with screw-top lids

two full boxes of cereal

Present one handbell, one bag of coins, one bag of potato chips, one can of juice, one jar, and one box of cereal to the child. Prepare to manipulate an identical set of objects so that the child cannot see them.

"Here are some things for you to feel, that you've had before. Let's play a game with them. Listen carefully and don't turn around."

Ring the handbell out of the child's view. Help the child if necessary.

"Can you make the sound that I'm making?" (Wait for response.)

"It's the bell."

Shake the paper bag with the coins out of the child's view. Help the child if necessary.

"Can you make the sound that I'm making?" (Wait for response.)

"It's the paper bag with money inside."

Press repeatedly on the bag of potato chips out of the child's view. Help the child if necessary.

"Can you make the sound that I'm making?" (Wait for response.)

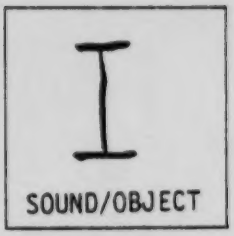
"It's a bag of potato chips."

Out of the child's view, shake the can of juice. Help the child if necessary.

"Can you make the sound that I'm making?" (Wait for response.)

"It's the can of juice."

G.P.2



Screw and unscrew the lid on a jar out of view of the child. Help the child if necessary.

"Can you make the sound that I'm making?" (Wait for response.)

"It's the jar."

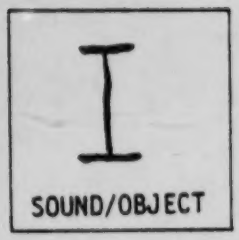
Shake a box of cereal out of view of the child. Help the child if necessary.

"Can you make the sound that I'm making?" (Wait for response.)

"It's the box of cereal."

The child should be able to select the correct object and duplicate the sound in five of the six trials in Exercise C without help from the teacher.

If the child is unable to select the correct object and duplicate the sound in five out of six trials, review the SOUND-OBJECT MATCH Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.



Guided Presentation 3

OBJECTIVE: The child will be able to match an object with its sound by naming the object when presented only with its sound.

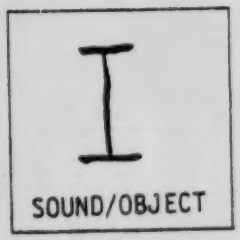
PURPOSE: This exercise will help the child move from concrete experience to more abstract thinking. The child will have to associate a sound with his or her knowledge of specific objects, then recall the name of the specific object that produces the sound.

MATERIALS:

Exercise A

- a zipper
- a small cellophane bag of potato chips
- a jar with a screw-top lid
- a 6-ounce can of juice
- a full box of cereal
- a paper bag containing coins
- a braillewriter with paper or typewriter with paper (depending on the probable reading mode of the child)
- a handbell
- a radio

G.P.3
Exercise A

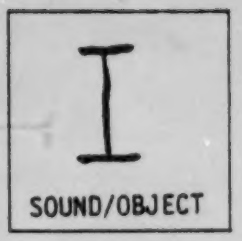


Prepare to manipulate the objects so that the child cannot see them.	"I'm going to make a sound. Are you ready to guess what makes the sound? Don't turn around and listen carefully."
Close and unclose the zipper.	"What is making this sound?" (Wait for response.) "It's a zipper."
Screw and unscrew the lid on the jar.	"What is making this sound?" (Wait for response.) "It's a jar."
Press repeatedly on the bag of potato chips.	"What is making this sound?" (Wait for response.) "It's a bag of potato chips."
Write with the braillewriter or typewriter.	"What is making this sound?" (Wait for response.) "It's a (name machine)."
Shake the box of cereal.	"What is making this sound?" (Wait for response.) "It's a box of cereal."

(continued)

- a zipper
- a small cellephane bag of potatoe chips
- a jar with a screw-top lid
- a 6-ounce can of juice
- a full box of cereal
- a paper bag of containing coins
- a braillewriter or typewriter with paper
- a hand bell
- a radio

45



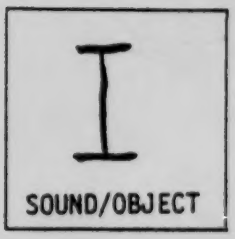
G.P.3
Exercise A

Ring the handbell.	"What is making this sound?" (Wait for response.) "It's a bell."
Turn on the radio.	"What is making this sound?" (Wait for response.) "It's a radio."
Shake the bag of coins.	"What is making this sound?" (Wait for response.) "It's a paper bag with money inside."
Shake the can of juice.	"What is making this sound?" (Wait for response.) "It's a can of juice."

The child should be able to name seven of the nine objects when presented only with their sounds in Exercise A.

If the child is unable to name seven of the nine objects, review the SOUND-OBJECT MATCH Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest



Materials

an alarm clock with a distinctive ticking sound
a paper lunch bag
a small bowl of marbles
two jars half-filled with rice
two pieces of aluminum foil (about 1 square foot)
two sets of keys
a drum and a drumstick
a whistle

Test

1a. Let the child examine the clock.

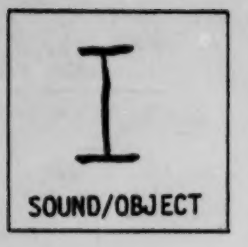
SAY: "Do you know what thing makes this sound?"

b. Let the child examine the paper bag. Then rustle the bag.

SAY: "Do you know what thing makes this sound?"

c. Let the child examine the bowl of marbles. Then stir the marbles.

SAY: "Do you know what things make this sound?"



Posttest

2. Let the child examine a jar with rice, a piece of aluminum foil, and a set of keys. Prepare to manipulate an identical set of items out of the child's view.

a. SAY: "Listen carefully and don't turn around. Can you make the sound that I'm making?" (Shake the jar with rice in it.)

b. SAY: "Listen carefully and don't turn around. Can you make the sound that I'm making?" (Rustle the aluminum foil.)

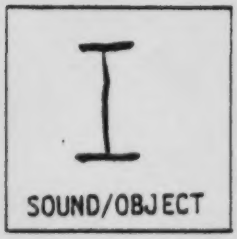
c. SAY: "Listen carefully and don't turn around. Can you make the sound that I'm making?" (Shake the set of keys.)

3. Prepare to beat the drum, turn on the alarm of the clock, and blow the whistle out of the child's view.

a. SAY: "Listen carefully and don't turn around. What thing is making this sound?" (Beat the drum several times. Wait for response.)

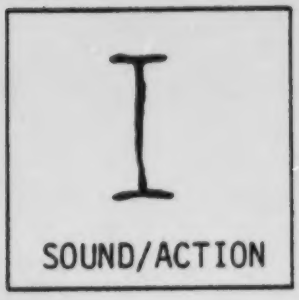
b. SAY: "Listen carefully and don't turn around. What thing is making this sound?" (Turn on the alarm of the clock. Wait for response.)

Posttest



c. SAY: "Listen carefully and don't turn around. What thing is making this sound?" (Blow the whistle several times. Wait for response.)

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concept sound-object match.



UNIT I : SENSORY MATCHING

LESSON 2 : SOUND/ACTION MATCH

Pretest

Materials

two pairs of blunt scissors
two jars with screw-top lids
two identical spoons
two identical cups
a toy telephone or a real telephone with a dial

Test

For all the questions on this pretest, turn the child so that he or she faces away from you and cannot see what you are doing.

1a. SAY: "I'd like you to do what I do. Are you ready? Listen carefully and don't turn around." (Knock on a table, a door, or a wall about five times.) "Can you do that?"

b. SAY: "I'd like you to do what I do. Are you ready? Listen carefully and don't turn around." (Scratch a table, a door, or a wall about five times.) "Can you do that?"

c. SAY: "I'd like you to do what I do. Are you ready? Listen carefully and don't turn around." (Rub the palms of your hands together about seven times.) "Can you do that?"

If all three items are answered correctly, go on to Question 2.

If one or more items are answered incorrectly, the child should concentrate on the SOUND-ACTION MATCH Experiential Exercises and begin with Guided Presentation 1.

2. Let the child examine a pair of scissors, a jar with a lid, and a spoon resting in a cup. Prepare to manipulate an identical set of items out of the child's view.

a. SAY: "I'd like you to do what I do with one of the things I have given you. Listen carefully and don't turn around." (Open and close the scissors.) "Can you do that?"

b. SAY: "I'd like you to do what I do with one of the things I have given you. Listen carefully and don't turn around." (Screw and unscrew the lid of the jar.) "Can you do that?"

c. SAY: "I'd like you to do what I do with some of the things I have given you. Listen carefully and don't turn around." (Stir with the spoon in the cup.) "Can you do that?"

Pretest

If all three items are answered correctly, go on to Question 3.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 2.

3. Prepare to snap your fingers and to dial the telephone out of the child's view.

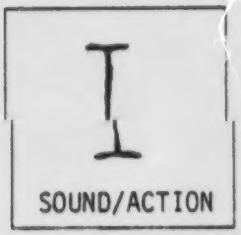
a. SAY: "Listen carefully and don't turn around." (Snap your fingers about seven times.) "What was I doing?"

b. SAY: "Listen carefully and don't turn around." (Dial a telephone number.) "What was I doing?"

If both items are answered correctly, go on to the next set of concepts.

If one or both items are answered incorrectly, the child should begin with Guided Presentation 3.

Experiential Exercises



1. On a tape recorder, record the sound of different actions such as a telephone ringing or someone whistling or singing. Have the child listen to the tape and identify the actions from the sounds.

2. Have the child guess your actions only by listening to them. Ask the child to tell you when he or she hears you perform a specific action, such as running, turning on a water faucet, opening and closing a drawer or a door, singing, bouncing a ball, etc.

3. Have the child sit close to an open window and listen to to the sounds from a playground. Ask the child to describe the activities happening on the playground only from the sounds.

4. Name actions that the child hears during the course of the school day whenever possible.

I

SOUND/ACTION

Guided Presentation 1

OBJECTIVE: The child will be able to match a body action with its sound by performing the specific body movement that produces the sound.

PURPOSE: These exercises will help the child learn to relate a body action with the specific sound associated with the action.

MATERIALS: None.

G.P.1
Exercise A

Help the child turn around so that he or she cannot see you.	"I'm going to ask you to do what I'm doing. Are you ready? Turn around so that you face away from me."
Clap your hands five times.	"Listen carefully. Can you do that?" (Wait for response.)
Clap your hands five times again. Help the child if necessary.	"I clapped my hands. Listen to me clap my hands again. Now you do it." (Wait for response.)
The child should still face away from you. Run in place for about ten seconds.	"Listen carefully to what I'm doing now. Can you do that?" (Wait for response.)
Run in place again for about ten seconds. Help the child, if necessary.	"I ran as fast as I could without going anywhere. Listen to me run again. Now you do it." (Wait for response.)

I

SOUND/ACTION

G.P.1

Exercise B

Help the child turn around so that he or she cannot see you.	"I'm going to ask you to do what I'm doing. Are you ready? Turn around so that you face away from me."
Jump up and down three times.	"Listen carefully. Can you do that?" (Wait for response.)
Jump up and down three times. Help the child jump, if necessary.	"I jumped. Listen to me jump again. Now you do it." (Wait for response.)
The child should still face away from you. Walk back and forth behind the child.	"Listen carefully to what I'm doing now. Can you do that?" (Wait for response.)
Walk back and forth behind the child. Help the child walk, if necessary.	"I walked. Listen to me walk. Now you do it." (Wait for response.)

The child should be able to recognize and perform both actions in Exercise B without help from the teacher.

If the child is unable to recognize and perform both actions, review the SOUND-ACTION MATCH Experiential Exercises and repeat Guided Presentation 1.

Guided Presentation 2

I

SOUND/ACTION

OBJECTIVE: The child will be able to match an action of an object with its sound by manipulating the object to produce the action and the sound.

PURPOSE: These exercises will help the child learn to relate an action involving an object with the specific sound associated with it.

MATERIALS:

Exercise A

two pieces of paper (8 1/2 inches by 11 inches)

four soda crackers

Exercise B

two small hammers and two blocks of wood (or two toy hammer sets)

two tennis balls

I

SOUND/ACTION

G.P.2
Exercise A

Have the child sit comfortably at a table for this exercise. Stand or sit behind the child and prepare to perform some of the indicated activities so that the child cannot see them.

two pieces of paper
four soda crackers

Present one piece of paper and two soda crackers to the child.	"Here are a piece of paper and some crackers for you to feel. I'm going to make a sound, and I'd like you to listen carefully to it. Don't turn around. Are you ready?"
Tear a strip off a second piece of paper.	"Can you make this sound with one of the things I gave you to feel?" (Wait for response.)
Tear another strip off the second piece of paper. Help the child if necessary.	"I was tearing the paper. Listen again. Can you do it?" (Wait for response.)

	"Listen carefully to this sound, but don't turn around. Are you ready?"
Break a soda cracker in half.	"Can you make this sound with one of the things I gave you to feel?" (Wait for response.)

(continued)

G.P.2

I
SOUND/ACTION

Break another soda cracker in half.	"I was breaking a cracker in half. Listen to it break again. Can you do it?" (Wait for response.)

61

I

SOUND/ACTION

G.P.2
Exercise B

Have the child sit comfortably at a table for this exercise. Stand or sit behind the child and prepare to perform some of the indicated activities so that the child cannot see them.

two small hammers and two blocks of wood

two tennis balls

Present a hammer, a block of wood, and a tennis ball to the child.

"Here's a hammer, a block of wood, and a ball for you to feel. I'm going to make a sound, and I'd like you to listen carefully to it. Don't turn around. Are you ready?"

Pound on the second block of wood with the second hammer.

"Can you make this sound with some of the things I gave you?" (Wait for response.)

Pound on the block of wood with the hammer again. Help the child if necessary.

"I was hammering on the wood. Listen to me hit the wood block with the hammer. Can you do it?" (Wait for response.)

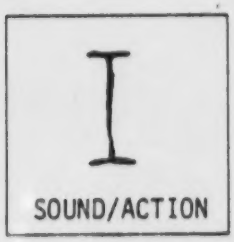
"Listen carefully to this sound, but don't turn around. Are you ready?"

Bounce the ball on the floor several times.

"Can you make this sound with one of the things I gave you?" (Wait for response.)

(continued)

G.P.2



Bounce the ball on the floor several times again.	"I was bouncing a ball. Listen to it bounce again. Can you do it?" (Wait for response.)

The child should be able to recognize and perform both actions in Exercise B without help from the teacher.

If the child is unable to recognize and perform both actions, review the SOUND-ACTION MATCH Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.

I

SOUND/ACTION

Guided Presentation 3

OBJECTIVE: The child will be able to match an action with its sound by naming the action when presented only with its sound.

PURPOSE: This exercise will help the child move from concrete experience to more abstract thinking. The child will have to associate a sound with his or her knowledge of specific actions, then recall the name of the specific action associated with the sound.

MATERIALS:

Exercise A

A piece of paper (8 1/2 inches by 11 inches)
a tennis ball

G.P.3

Exercise A

I

SOUND/ACTION

Stand behind the child and prepare to perform the indicated activities so that the child cannot see them.	"I'd like you to play a guessing game with me. Try to guess what I'm doing. Don't turn around. Are you ready?"
Jump up and down three times.	"What was I doing?" (Wait for response.) "I was jumping."
Tear a strip off the sheet of paper.	"Now listen again. What was I doing?" (Wait for response.) "I was tearing paper."
Clap your hands five times.	"Listen again. What was I doing?" (Wait for response.) "I was clapping my hands."
Bounce the ball on the floor several times.	"Listen again. What was I doing?" (Wait for response.) "I was bouncing a ball."

a piece of paper

a tennis ball

The child should be able to name all four actions in Exercise A without help from the teacher.

If the child is unable to name all four actions, review the SOUND-ACTION MATCH Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest

two pairs of blunt scissors
two jars with screw-top lids
two identical spoons
two identical cups
a toy telephone or a real telephone with a dial

Materials

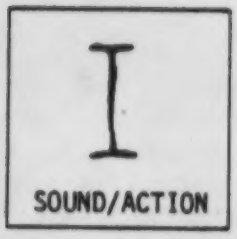
For all the questions on this posttest, turn the child so that he or she faces away from you and cannot see what you are doing.

Test

1a. SAY: "I'd like you to do what I do. Are you ready? Listen carefully and don't turn around." (Knock on a table, a door, or a wall about five times.) "Can you do that?"

b. SAY: "I'd like you to do what I do. Are you ready? Listen carefully and don't turn around." (Scratch a table, a door, or a wall about five times.) "Can you do that?"

c. SAY: "I'd like you to do what I do. Are you ready? Listen carefully and don't turn around." (Rub the palms of your hands together about seven times.) "Can you do that?"



Posttest

2. Let the child examine a pair of scissors, a jar with a lid, and a spoon resting in a cup. Prepare to manipulate an identical set of items out of the child's view.

a. SAY: "I'd like you to do what I do with one of the things I have given you. Listen carefully and don't turn around." (Open and close the scissors.) "Can you do that?"

b. SAY: "I'd like you to do what I do with one of the things I have given you. Listen carefully and don't turn around." (Screw and unscrew the lid of the jar.) "Can you do that?"

c. SAY: "I'd like you to do what I do with some of the things I have given you. Listen carefully and don't turn around." (Stir with the spoon in the cup.) "Can you do that?"

3. Prepare to snap your fingers and to dial the telephone out of the child's view.

a. SAY: "Listen carefully and don't turn around." (Snap your fingers about seven times.) "What was I doing?"

Posttest

b. SAY: "Listen carefully and don't turn around." (Dial a telephone number.) "What was I doing?"

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concept sound-action match.

UNIT II : SIZE

LESSON 1 : BIG/LITTLE

Pretest

Materials

a small shoe
a large shoe
an empty half-gallon milk container
an empty pint milk container
an empty pint cottage cheese container
an empty half-pint cottage cheese container
a 45 rpm record
a long-playing record
a shoe box
a button
a 1-pound can of food
a screw or a bolt
a sponge

Test

1a. Present both shoes to the child.

SAY: "Hand me the shoe that is big."

b. Present both milk containers to the child.

SAY: "Hand me the milk container that is little."

c. Present both cottage cheese containers to the child.

SAY: "Hand me the container (or tub) that is big."

d. Present both records to the child.

SAY: "Hand me the record that is little."

If all four items are answered correctly, go on to Question 2.

If one or more items are answered incorrectly, the child should concentrate on the BIG-LITTLE Experiential Exercises and begin with Guided Presentation 1.

2a. Present the shoe box, the button, and the can of food to the child.

SAY: "Show me something that is little."

b. Present the can of food, the button, and the screw or bolt to the child.

SAY: "Show me something that is big."

c. Present the can of food, the screw or bolt, and the sponge to the child.

SAY: "Show me something that is little."

Pretest

If all three items are answered correctly, go on to Question 3.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 2.

3a. SAY: "What is big, a refrigerator or an apple?"

b. SAY: "What is little, a doorknob or a door?"

c. SAY: "What is big, a ball or a car?"

d. SAY: "What is little, a bed or an ice cube?"

If all four items are answered correctly, the child can go on to the next set of concepts.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 3.

Experiential

When selecting objects to represent big and little, it is important to remember that all dimensions (height, length, and width) must change proportionally in order to correctly represent these concepts to the child.

1. Give the child five tablespoons and five teaspoons. Show the child how to sort the teaspoons into one pile and the tablespoons into another pile. After the spoons are sorted, introduce the words big and little and refer to the corresponding piles.

2. Give the child two paper cups of different sizes so that one paper cup easily fits inside the other. Show the child how to fit the cups together. As the child puts one cup inside the other, refer to the large cup as big and the smaller cup as little. (This exercise can be repeated using empty big and little cans that have the lids carefully removed.)

3. Give the child a pegboard composed of large and small pegs that fit into corresponding large and small holes. The pegs should differ in both width and height. They must be at least 1 inch high and 1/2 inch wide. Show the child how to

Exercises

place the big peg into the big hole and the little peg into the little hole. As the child successfully places a peg into its corresponding hole, introduce the term big or little as appropriate.

4. Introduce the terms big and little during the course of the school day when the child is manipulating any materials that relate to these terms, thereby reinforcing the meaning of the terms whenever possible.

5. Give the child paired pictures of familiar objects. The illustrated objects should differ in size, but the overall dimensions of the picture frames should be the same size. Show the child how to match the pictures. When the pictures are matched, refer to the larger picture of each pair as big and smaller picture of each pair as little.

FOR THE CHILD WITH VISION

II

BIG/LITTLE

Guided Presentation 1

OBJECTIVE: The child will be able to select the big or little object from a pair of objects that are clearly different in size.

PURPOSE: These exercises are designed to help the child understand the relative meanings of big and little. For example, a tennis ball is big compared with a marble but is small compared with a basketball. Pairs of objects will be presented to the child, and the child must choose the big or the little object from each pair. The objects in each pair are very similar so that the child is not confused by characteristics other than relative size.

MATERIALS:

Exercise A

a tennis ball

a marble

Exercise B

a large circular cookie (about 2 inches in diameter)

a small circular cookie (about 3/4 inches in diameter)

(continued)

G.P.1

MATERIALS: (continued)

Exercise C

a teaspoon
a tablespoon
a legal-sized envelope
a standard envelope
a large paper cup
a small paper cup
a penny
a quarter
a dinner plate (paper or plastic)
a small plate (paper of plastic)

II

BIG/LITTLE

G.P.1
Exercise A

a tennis ball
a marble

Present the tennis ball and the marble to the child. Let the child feel each ball as you talk about it.	"Here are some balls. This ball (tennis ball) is big. This ball (marble) is little."
Present the tennis ball to the child.	"Is this ball big?" (Wait for response.) "This ball is big."
Present the marble to the child.	"Is this ball little?" (Wait for response.) "This ball is little."

G.P.1
Exercise B

Present the large and small cookies to the child. Let the child feel each cookie as you talk about it.	"I have some cookies. I have a big cookie and a little cookie. This cookie is big. This cookie is little."
Present only the large cookie to the child.	"Is this cookie big?" (Wait for response.) "This cookie is big."
Present only the small cookie to the child.	"Is this cookie little?" (Wait for response.) "This cookie is little."
Present both cookies again to the child. Help the child if the little cookie is chosen; allow the child to eat the big cookie.	"Would you like to eat a cookie? Take the big cookie."

a large circular cookie
a small circular cookie

G.P.1
Exercise C

Repeat this exercise five times with different pairs of similar objects, as specified.

a teaspoon
a tablespoon

a legal-sized envelope
a standard envelope

a large paper cup
a small paper cup

a penny
a quarter

a dinner plate
a small plate

Present a pair of objects to the child. Let the child feel the objects as you name them.

"Here are two (spoons, envelopes, cups, coins, or plates)."

(Alternate big and little requests.)

"Hand me the (name big or little) one." (Alternate big and little requests.)

If the child does not select the desired object, hand the appropriate object to the child.

The child should be able to choose the big or little object from paired objects of different size in four out of five trials in Exercise C.

If the child is unable to choose the desired object in four out of five trials, review the BIG-LITTLE Experiential Exercises and repeat Guided Presentation 1.

Guided Presentation 2

OBJECTIVE: The child will be able to select the big or little object from a group of objects that are clearly different in size as well as other characteristics.

PURPOSE: These exercises will help the child generalize an understanding of the relative meanings of big and little to objects that differ not only in size but in other characteristics as well.

MATERIALS:

Exercise A

a quarter
a house key
a large toy truck

Exercise B

a large book (braille or large type)
a large doll
a child's toothbrush

Exercise C

a large paper clip
*a house key
*a large book (braille or large type)
*a large doll
a large cereal box
*a quarter

(continued)

MATERIALS: (continued)

Exercise C (continued)

a cotton ball
an unshelled peanut
a women's handbag
a large shoe or slipper
a small piece of clay

G.P.2
Exercise A

II

BIG/LITTLE

Present the quarter, the key, and the truck to the child. Let the child examine the items.

"Let's find something <u>big</u>."

a quarter
a house key
a large toy truck

Show the child the truck.

"This is <u>big</u>."

87

II

BIG/LITTLE

G.P.2
Exercise B

Present the book, the doll, and the toothbrush to the child. Let the child examine the items.

"Let's find something little."

a large book
a large doll
a child's toothbrush

Show the child the toothbrush.

"This is little."

G.P.2
Exercise C

Repeat this exercise four times with the different groups of objects specified.

Present a group of objects to the child. (Alternate your choice of groups.)

"Can you find something (name big or little)."

If the child doesn't select the desired object, show him or her the appropriate one.

- a large paper clip
- a house key
- a large book

- a large doll
- a large cereal box
- a quarter

- a cotton ball
- an unshelled peanut
- a women's handbag

- a large shoe or slipper
- a small piece of clay
- a shoe box

The child should be able to choose the appropriate object from all four groups in Exercise C.

If the child is unable to choose the desired object in all four trials review the BIG-LITTLE Experiential and Guided Presentation 1; repeat Guided Presentation 2.

II

BIG/LITTLE

Guided Presentation 3

OBJECTIVE: The student will be able to select a big or little object from a pair of objects that are named by the teacher.

PURPOSE: This exercise will help the child move from concrete experiences to abstract thinking. The child will have to match the words spoken by the teacher with objects previously experienced. Then, the child must apply his or her concept of big and small to the specified objects. The two objects named by the teacher are to be clearly different in size, such as a chair and a cup. It is essential that the child has had some concrete experience with the objects that are named in this exercise.

MATERIALS: None.

G.P.3
Exercise A

"What is big, a chair or a cup?" (Wait for response.)

"A chair."

"What is big, a car or a marble?" (Wait for response.)

"A car."

"What is big, a spoon or a desk?" (Wait for response.)

"A desk."

"What is big, a cookie or a table?" (Wait for response.)

"A table."

"What is little, a tooth or a bed?" (Wait for response.)

"A tooth."

"What is little, a door or a quarter?" (Wait for response.)

"A quarter."

II

BIG/LITTLE

G.P.3
Exercise A

"What is little, a doll or a mother?" (Wait for response.)

"A doll."

"What is little, a key or a chair?" (Wait for response.)

"A key."

The child should be able to choose the specified objects in at least seven of the eight questions in Exercise C.

If the child is unable to respond correctly to at least seven of the questions, review the BIG-LITTLE Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest

Materials

a small shoe
a large shoe
an empty half-gallon milk container
an empty pint milk container
an empty pint cottage cheese container
an empty half-pint cottage cheese container
a 45 rpm record
a long-playing record
a shoe box
a button
a 1-pound can of food
a screw or a bolt
a sponge

Test

1a. Present both shoes to the child.

SAY: "Hand me the shoe that is big."

b. Present both milk containers to the child.

SAY: "Hand me the milk container that is little."

c. Present both cottage cheese containers to the child.

SAY: "Hand me the container (or tub) that is big."

d. Present both records to the child.

SAY: "Hand me the record that is little."

2a. Present the shoe box, the button, and the can of food to the child.

SAY: "Show me something that is little."

b. Present the can of food, the button, and the screw or bolt to the child.

SAY: "Show me something that is big."

c. Present the can of food, the screw or bolt, and the sponge to the child.

SAY: "Show me something that is little."

3a. SAY: "What is big, a refrigerator or an apple?"

b. SAY: "What is little, a doorknob or a door?"

c. SAY: "What is big, a ball or a car?"

d. SAY: "What is little, a bed or an ice cube?"

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concepts big and little.

UNIT II : SIZE

LESSON 2 : LONG/SHORT

Pretest

Materials

an intact crayon
a used or broken crayon
a long licorice stick
a short licorice stick
a long piece of macaroni
a short piece of macaroni
a large tube of toothpaste
a small tube of toothpaste
a rolling pin
a long wooden or metal cooking spoon
a toothpick
a standard length band-aid
a fork
a popsicle stick

Test

1a. Present both crayons to the child.

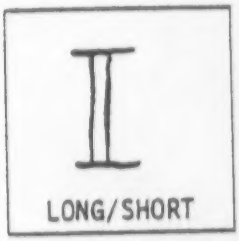
SAY: "Hand me the crayon that is long."

b. Present both pieces of licorice to the child.

SAY: "Hand me the piece of licorice that is short."

c. Present both pieces of macaroni to the child.

SAY: "Hand me the piece of macaroni that is long."



d. Present both tubes of toothpaste to the child.

SAY: "Hand me the tube of toothpaste that is short."

If all four items are answered correctly, go on to Question 2.

If one or more items are answered incorrectly, the child should concentrate on the LONG-SHORT Experiential Exercises and begin with Guided Presentation 1.

2a. Present the rolling pin, the long wooden spoon, and the toothpick to the child.

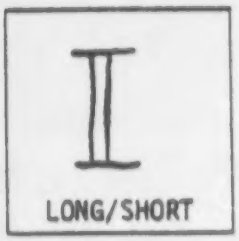
SAY: "Show me something that is very short."

b. Present the long wooden spoon, the toothpick, and the band-aid to the child.

SAY: "Show me something that is very long."

c. Present the fork, the popsicle stick, and the short piece of macaroni to the child.

SAY: "Show me something that is very short."



Pretest

If all three items are answered correctly, go on to Question 3.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 2.

3a. SAY: "What is longer, a belt or a button?"

b. SAY: "What is shorter, a rubber band or a pair of pants?"

c. SAY: "What is longer, a peanut or a carrot?"

d. SAY: "What is shorter, a shoe or a house key?"

If all four items are answered correctly, the child can go on to the next set of concepts.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 3.

Experiential

In these exercises, short and long must be presented in relation to the horizontal. The exceptions to the rule, such as short and long hair, have not been used as examples of the concepts since they could confuse the child.

1. Give the child some plastic beads that fit together (pop-beads). Show the child how the beads go together. Introduce the word short when the child puts two or three beads together and the word long when five or more beads are put together.

2. Give the child some clay or play-dough and show the child how to roll a hot-dog shape. As the child learns to make a short hot-dog and a long hot-dog, use the terms short and long.

3. Present a reel of masking tape to the child. Ask the child to pull out a short piece of tape and break it off, or help the child perform the operation. Refer to the strip of tape as short. Then have the child pull out a longer strip of

Exercises

tape and break it off. Refer to this strip as long. Let the child play with the two strips of tape and the reel of masking tape.

4. Introduce the terms short and long during the course of the school day when the child is manipulating any materials that relate to these terms, thereby reinforcing the meanings of the terms whenever possible.

5. Give the child paired pictures of familiar objects. The illustrated objects should differ in length, but the overall dimensions of the picture frames should be the same size. Show the child how to match the pictures. When the pictures are matched, refer to the longer picture of each pair as long and the shorter picture as short.

FOR THE CHILD WITH VISION

Guided Presentation 1

OBJECTIVE: The child will be able to select the short or long object from a pair of objects that are clearly different in length.

PURPOSE: These exercises will help the child understand the relative meanings of short and long. Pairs of objects will be presented to the child, and the child must choose the short or the long object from each pair. The objects in each pair are to be very similar so that the child is not confused by characteristics other than relative length.

MATERIALS:

Exercise A

a long candle

a short candle (same thickness as long candle)

Exercise B

a long comb

a short comb (same color as long comb)

Exercise C

a cardboard cylinder from a roll of paper towels

a cardboard cylinder from a roll of toilet paper

(continued)

MATERIALS: (continued)

Exercise D

a 4-inch pencil
a standard pencil
a short bobby pin
a long bobby pin
an adult's toothbrush
a child's short toothbrush
a teaspoon
a tablespoon
a short celery stalk
a whole celery stalk

II

LONG/SHORT

G.P.1
Exercise A

Present the candles to the child. Move the child's hand along the length of each candle in a horizontal direction as you present them.

"Here are two candles. This candle is short. This candle is long."

a long candle

a short candle

Present the short candle to the child. Let the child feel it as you talk.

"Is this candle short?" (Wait for response.)

"This candle is short."

Present the long candle to the child. Let the child feel it as you talk.

"Is this candle long?" (Wait for response.)

"This candle is long."

G.P.1

Exercise B

Present the combs to the child. Move the child's hand along the length of each comb in a horizontal direction as you present them.

"Now I have some combs. This comb is short. This comb is long."

a long comb
a short comb

Present the short comb to the child. Let the child feel it as you talk.

"Is this comb short?" (Wait for response.)

"This comb is short."

Present the long comb to the child. Let the child feel it as you talk.

"Is this comb long?" (Wait for response.)

"This comb is long."

G.P.1
Exercise C

a long cardboard cylinder

a short cardboard cylinder

Present the cardboard cylinders to the child. Move the child's hand along the length of each cylinder in a horizontal direction as you present them.

"Here are some tubes. This tube is short. This tube is long."

Present the short cylinder to the child. Let the child feel it as you talk.

"Is this tube short?" (Wait for response.)

"This tube is short."

Present the long cylinder to the child. Let the child feel it as you talk.

"Is this tube long?" (Wait for response.)

"This tube is long."

G.P.1
Exercise D

Repeat this exercise with different pairs of similar objects, as specified.

Present a pair of objects to the child. Let the child feel the objects as you talk.

"Here are some (name objects)."

(Alternate short or long requests.)

"Hand me the (name short or long) one."

If the child doesn't select the desired object, show him or her the appropriate one.

- a 4-inch pencil
- a standard length pencil
- a long bobby pin
- a short bobby pin
- an adult's toothbrush
- a child's short toothbrush
- a teaspoon
- a tablespoon
- a short celery stalk
- a whole celery stalk

The child should be able to choose the short or long object from paired objects of different length in four out of five trials in Exercise D.

If the child is unable to select the desired object in four out of five trials, review the LONG-SHORT Experiential Exercises and repeat Guided Presentation 1.

II

LONG/SHORT

Guided Presentation 2

OBJECTIVE: The child will be able to select the short or long object from a group of objects that are clearly different in length as well as other characteristics.

PURPOSE: These exercises will help the child generalize an understanding of the relative meanings of short and long to objects that differ not only in length but in other characteristics as well.

MATERIALS:

Exercise A
- a standard pencil
- a standard toothbrush
- a pretzel stick (no more than 3 inches long)

Exercise B
- a paper clip (small size)
- a birthday candle
- a pipe cleaner

Exercise C
- *a pretzel stick
- a drinking straw
- a whole celery stalk

(continued)

G.P.2

II
LONG/SHORT

MATERIALS: (continued)

Exercise C

a short cinnamon stick
a 4-inch pencil
a 12-inch ruler
a long candle
a short bobby pin
*a paper clip
a watercolor paintbrush
*an adult's toothbrush
a 1-inch screw

G.P.2
Exercise A

Present the pencil, the toothbrush, and the pretzel stick to the child.

"Can you find something <u>short</u>?" (Wait for response.)

Show the child the pretzel stick and let the child eat it.

"This is <u>short</u>. It's a pretzel. You may eat it."

a pencil
a toothbrush
a pretzel stick

G.P.2
Exercise B

Present the paper clip, the candle, and the pipe cleaner to the child.	"Can you find something long?"
Show the child the pipe cleaner.	"This is long. It's a pipe cleaner."

a paper clip
a birthday candle
a pipe cleaner

a pretzel stick
a straw
a whole celery stalk

a cinnamon stick
a 4-inch pencil
a 12-inch ruler

a long candle
a short bobby pin
a paper clip

a watercolor paintbrush
an adult's toothbrush
a 1-inch screw

G.P.2
Exercise C

Repeat this exercise four times with the different groups of objects specified.

Present a group of objects to the child. (Alternate between short and long requests.)

"Can you find something (name short or long)?"

If the child doesn't select the desired object, show him or her the appropriate one.

The child should be able to choose the long or short object from groups of objects that differ in length in all four trials in Exercise C.

If the child is unable to choose the desired object in all four trials, review the LONG-SHORT Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.

Guided Presentation 3

OBJECTIVE: The child will be able to select a long or short object from a pair of objects that are named by the teacher.

PURPOSE: The purpose of this exercise is to help the child move from concrete experience to abstract thinking. The child will have to match the words spoken by the teacher with objects previously experienced. Then the child must apply his or her concept of long and short to the specified objects. The two objects named by the teacher are to be clearly different in length, such as a cookie and a ruler. It is essential that the child has had some concrete experiences with the objects that are named in the exercise.

MATERIALS: None.

G.P.3
Exercise A

"What is shorter, a finger or an arm?" (Wait for response.)

"A finger."

"What is shorter, a paper clip or a paintbrush?" (Wait for response.)

"A paper clip."

"What is shorter, a ruler or an eraser?" (Wait for response.)

"An eraser."

"What is longer, a toothbrush or a penny?" (Wait for response.)

"A toothbrush."

"What is longer, a screw or a straw?" (Wait for response.)

"A straw."

G.P.3

"What is longer, a pretzel stick or a pipe cleaner?" (Wait for response.)

"A pipe cleaner."

The child should be able to choose the specified objects from at least five of the six pairs in Exercise A.

If the child is unable to respond correctly to at least five of the six questions, review the LONG-SHORT Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest

Materials

an intact crayon
a used or broken crayon
a long licorice stick
a short licorice stick
a long piece of macaroni
a short piece of macaroni
a large tube of toothpaste
a small tube of toothpaste
a rolling pin
a long wooden or metal cooking spoon
a toothpick
a standard length band-aid
a fork
a popsicle stick

Test

1a. Present both crayons to the child.

SAY: "Hand me the crayon that is long."

b. Present both pieces of licorice to the child.

SAY: "Hand me the piece of licorice that is short."

c. Present both pieces of macaroni to the child.

SAY: "Hand me the piece of macaroni that is long."

d. Present both tubes of toothpaste to the child.

SAY: "Hand me the tube of toothpaste that is short."

2a. Present the rolling pin, the long wooden spoon, and the toothpick to the child.

SAY: "Show me something that is very short."

b. Present the long wooden spoon, the toothpick, and the band-aid to the child.

SAY: "Show me something that is very long."

c. Present the fork, the popsicle stick, and the short piece of macaroni to the child.

SAY: "Show me something that is very short."

3a. SAY: "What is longer, a belt or a button?"

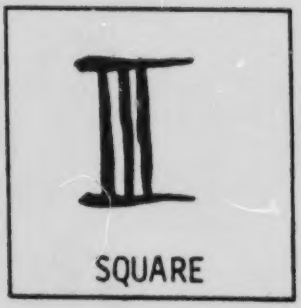
b. SAY: "What is shorter, a rubber band or a pair of pants?"

c. SAY: "What is longer, a peanut or a carrot?"

d. SAY: "What is shorter, a shoe or a house key?"

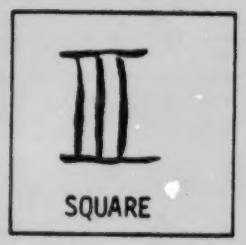
Posttest

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concepts long and short.



UNIT III : SHAPE

LESSON 1 : SQUARE



Pretest

Materials

- a plastic or wooden square (1 1/2 inches to 2 1/2 inches on a side)
- a plastic or wooden triangle (same color, texture, relative size as the square)
- a sandpaper square (4 inches on a side)
- a sandpaper hexagon (same relative size as the square)
- a cloth square (2 inches on a side)
- a 1-inch by 5-inch cloth rectangle (same color and texture as the cloth square)
- a square cake pan
- a square box (e.g., jewelry box)
- a cardboard square (4 inches on a side with a 2-inch square cut out from its center)
- a house key
- a spool of thread
- a shoe

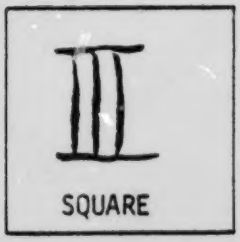
Test

1a. Present the plastic or wooden square and the plastic or wooden triangle to the child.

SAY: "Hand me the square."

b. Present the sandpaper square and the sandpaper hexagon to the child.

SAY: "Hand me the square."



c. Present the cloth square and the cloth rectangle to the child.

SAY: "Hand me the square."

If all three items are answered correctly, go on to Question 2.

If one or more items are answered incorrectly, the child should concentrate on the SQUARE Experiential Exercises and begin with Guided Presentation 1.

2. Present the cake pan, the square box, the cardboard square, the key, the thread, and the shoe to the child.

SAY: "Hand me all the square things."

If all three square objects are selected, go on to Question 3.

If fewer than three square objects are selected, the child should begin with Guided Presentation 2.

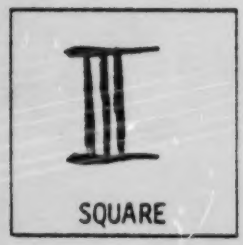
3a. SAY: "What is square, a graham cracker or an apple?"

b. SAY: "What is square, a checkerboard (or game board) or a toothbrush?"

c. SAY: "What is square, a pencil or a napkin?"

If all three items are answered correctly, the child can go on to the next set of concepts.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 3.



Experiential

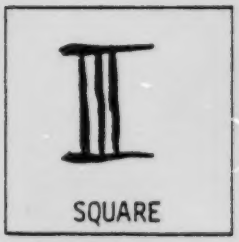
For these exercises, a square is represented by objects that are technically rectangular solids (such as a soda cracker), rather than cubes.

1. Put a bright, textured 1- or 2-foot square mat or carpet on the floor. Let the child feel the square, crawl on it, or jump on it. Introduce the word square while the child is exploring the shape.

2. Give the child several flat squares that measure 2 to 3 inches on a side and are less than 1/4 inch thick. All the squares should be the same size, color, and texture. Let the child explore the four corners and four sides of each square and explain these attributes as the child feels each square. Introduce the word square while the child is feeling the shapes.

3. Give the child a square puzzle (preferably without knobs) consisting of pieces that are squares of different sizes. Let the child fit the square cut-outs into the holes or help

Exercises

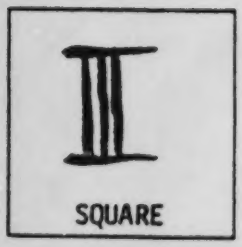


the child perform the operation. As the child fits a cut-out into its corresponding hole, refer to the shape as a square.

4. Cut out a 4-inch square from sandpaper and paste it on a larger piece of construction paper that is a contrasting color. After the child has explored the square with or without assistance, have the child follow the outline of the sandpaper square with his or her fingers. Then have the child paste cotton balls or other textured material along the outside border of the square. When the paste is dry, have the child feel the raised outline of the square. Refer to the shape as square throughout the exercise.

5. Give the child some square shapes of different sizes, colors, and textures. Allow the child to carefully examine and explore the shapes. Refer to them all as squares.

6. Give the child the raised outline of a 3-inch square on a piece of construction paper. The outline should be made from a textured material such as paint mixed with sand, glitter, or glued-down drinking straws. Let the child explore the shape, then have the child paint inside the shape with paint mixed with sand. Refer to the shape as square throughout the exercise.



Experiential Exercises

FOR THE CHILD WITH VISION

7. Paint the outline of a square (about 1 foot on a side) on a large piece of paper. Attach the paper to an easel and then let the child paint inside the shape. Refer to it as a square.

8. Have the child trace a square from a template, cut or tear the square out, and then paste the square down on a contrasting piece of paper. Refer to the shape as a square.

Guided Presentation 1

SQUARE

OBJECTIVE: The child will be able to select a square from a pair of shapes that are different.

PURPOSE: This exercise will help the child discriminate a square from other shapes. The shapes presented to the child will become more like than unlike the square, and the child will have to make increasingly finer discriminations based upon the attributes of a square. The paired objects are to be about the same relative size, the same color, and the same texture.

MATERIALS:

Exercise A

a square (about 1/16 inch to 1/4 inch high, 1 inch to 2 1/2 inches on a side, made of wood, plastic, or very heavy cardboard)

a circle (same material as square)

Exercise B

*a square

a triangle (same material as square)

Exercise C

*a square

a rectangle (same material as square)

Exercise D

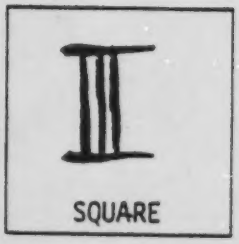
*a square

*a circle

an oval (same material as square)

*a triangle

a hexagon (same material as square)

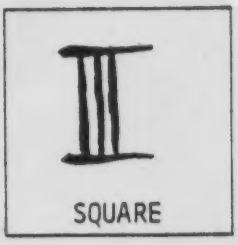


G.P.1
Exercise A

a square
a circle

Present the square and the circle to the child. Let the child feel both shapes as you talk.	"Here are some shapes. This is a square."
Help the child feel the sides and corners.	"Feel the four sides and the four corners."
Present the square and the circle again to the child. Let the child feel both shapes.	"Show me the square."
Hand the child the square.	"This is the square."
Help the child feel the sides and corners.	"Feel the four sides and the four corners."

G.P.1
Exercise B



Present the square and the triangle to the child. Let the child feel both shapes as you talk.

"Here are some more shapes. Show me the square."

---

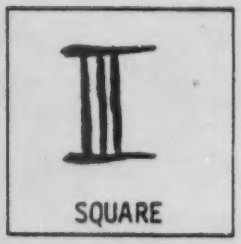
a square
a triangle

Hand the child the square.

"This is the square."

Help the child feel the sides and corners.

"Feel the four sides and the four corners."

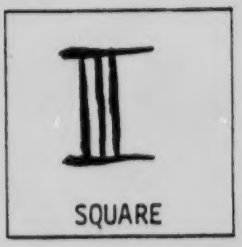


G.P.1
Exercise C

a square
a rectangle

Present the square and the rectangle to the child. Let the child feel both shapes as you talk.	"Here are some shapes. Show me the square."
Hand the child the square.	"This is the square."
Help the child feel the sides and corners.	"Feel the four sides and the four corners."

G.P.1
Exercise D



Repeat this exercise using the square paired with the circle, the oval, the triangle, and the hexagon.

a square
a circle
an oval
a triangle
a hexagon

Present the square and another shape (circle, oval, triangle, or hexagon) to the child. Let the child feel both shapes.

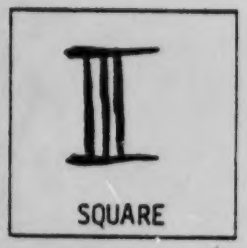
"Here are some other shapes. Show me the square."

Hand the child the square.

"This is the square."

The child should be able to choose the square from all four pairs of shapes in Exercise D.

If the child is unable to select the square from all four pairs of shapes, review the SQUARE Experiential Exercises and repeat Guided Presentation 1.



Guided Presentation 2

OBJECTIVE: The child will be able to select squares of different sizes, colors, and textures from a group of objects.

PURPOSE: This exercise is designed to help the child generalize an understanding of square to include squares of different sizes, colors, and textures.

MATERIALS:

Exercise A

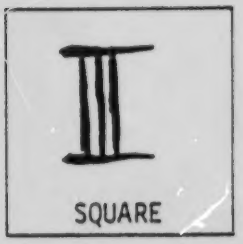
- a sandpaper square (2 1/2 inches square)
- a corduroy square (corduroy pasted on both sides of 1 1/2-inch square cardboard)
- a wooden square (1 inch square and about 1/8 inch to 1/4 inch high)
- a sandpaper triangle
- a corduroy oval
- a wooden circle

Exercise B

- a square waffle
- a square potholder
- a square piece of flat, pre-wrapped cheese
- a water color paintbrush
- a small plastic bottle or container
- a paper plate

(continued)

G.P.2



MATERIALS: (continued)

Exercise C

a square washcloth

a square sponge (cut to shape)

a square cookie

a drinking straw

a quarter

a small toy that is not square

Exercise D

a square slice of bread

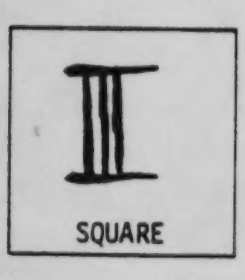
a soda cracker

a square 45 RPM record cover with record inside

a bowl (plastic or paper)

a tablespoon

an unused piece of chalk



G.P.2
Exercise A

Present the sandpaper square, the corduroy square, the wooden square, the sandpaper triangle, the corduroy oval, and the wooden circle to the child.

"Here are some shapes that are fun to feel."

a sandpaper square
a corduroy square
a wooden square
a sandpaper triangle
a corduroy oval
a wooden circle

Let the child feel the objects as you talk.

"Can you find all the squares? Hand me the squares."

Show the child the three squares if the child cannot find them.

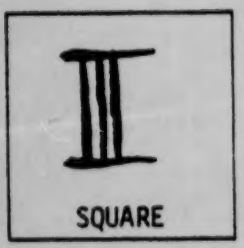
"Let's feel the four sides and four corners of each square." (Count the sides and corners as the child feels them.)

G.P.2
Exercise B

SQUARE

Present the waffle, the potholder, the cheese, the paintbrush, the bottle, and the plate to the child.	"Here are more shapes to feel."
Let the child feel the objects as you talk.	"Can you find all the squares? Hand me all the squares."
Show the child the three squares if the child cannot find them. Help the child count the sides and corners of each square.	"Let's find the four sides and four corners of each square."
Present the potholder, the waffle, and the cheese. Let the child feel them.	"These are the squares. Do you know what they are?" "This is a potholder." (Explain and show its function.) "This is a waffle." (Explain and show its function.)
Let the child eat the cheese.	"This is some cheese. Would you like to unwrap the cheese and eat it? OK."

- a square waffle
- a square potholder
- a square piece of flat, pre-wrapped cheese
- a watercolor paintbrush
- a small, plastic bottle or container
- a paper plate



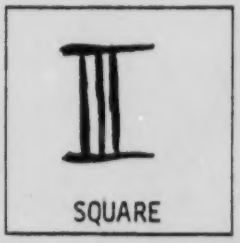
G.P.2
Exercise C

a square washcloth
a square sponge
a square cookie
a drinking straw
a quarter
a small toy
(not square)

Present the washcloth, the square cookie, the sponge, the straw, the quarter, and the small toy to the child.	"Here are more shapes to feel."
Let the child feel the objects.	"Can you find all the squares? Hand me the squares."
Show the child the three squares if the child cannot find them. Help the child count the sides and corners of each square.	"Let's find the four sides and four corners of each square."
Present the washcloth, the sponge, and the cookie to the child. Let the child feel the objects.	"These are the squares. Do you know what they are?" "This is a washcloth." (Explain and show its function.) "This is a sponge." (Explain and show its function.)
Let the child eat the cookie.	"This is a cookie. The cookie is for you."

G.P.2
Exercise D

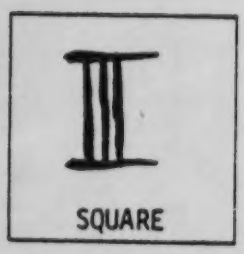
Present the bread, the soda cracker, the record cover, the bowl, the tablespoon, and the chalk to the child.	"Are you ready for some more shapes to feel?"
Let the child feel the objects.	"Can you find the squares? Hand me the squares."
Show the child the squares if the child cannot find them. Help the child count the sides and corners of each square.	"Let's feel the four sides and four corners of each square."
Present the cracker, the bread, and the record cover to the child. Let the child feel the objects.	"These are the squares. Do you know what they are?" "This is a piece of bread." "This is an envelope." (Explain and show its function.)
Let the child eat the cracker.	"This is a cracker. The cracker is for you."



- a square slice of bread
- a soda cracker
- a square 45RPM record cover with record inside
- a bowl (plastic or paper)
- a tablespoon
- an unused piece of chalk

The child should be able to select all three square objects from the group of objects presented in Exercise D.

If the child is unable to select all three square objects, review the SQUARE Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.



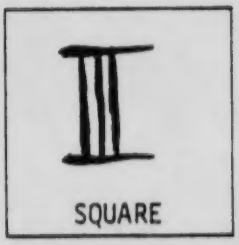
Guided Presentation 3

OBJECTIVE: The child will be able to select the object that is square from a pair of objects named by the teacher.

PURPOSE: This exercise will help the child to apply an understanding of square to his or her knowledge of concrete objects. It requires the child to move from concrete experiences to abstract thinking. The two objects named by the teacher are clearly different in shape. It is essential that that child has had some concrete experience with the objects that are named in this exercise.

MATERIALS: None.

G.P.3
Exercise A



"What is square, a soda cracker or a doll?" (Wait for response.)

"A soda cracker."

"What is square, a slice of bread or a ball?" (Wait for response.)

"A slice of bread."

"What is square, a banana or a potholder?" (Wait for response.)

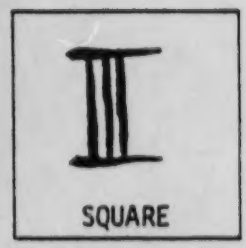
"A potholder."

"What is square, a quarter or a waffle?" (Wait for response.)

"A waffle."

"What is square, an orange or a washcloth?" (Wait for response.)

"A washcloth."



G.P.3
Exercise A

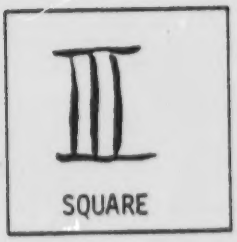
"What is square, a bowl or a record cover." (Wait for response?)

"A record cover."

The child should be able to choose the square object in at least five of the six questions in Exercise A.

If the child is unable to respond correctly to five of the six questions, review the SQUARE Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest



Materials

- a plastic or wooden square (1 1/2 inches to 2 1/2 inches on a side)
- a plastic or wooden triangle (same color, texture, relative size as the square)
- a sandpaper square (4 inches on a side)
- a sandpaper hexagon (same relative size as the square)
- a cloth square (2 inches on a side)
- a 1-inch by 5-inch cloth rectangle (same color and texture as the cloth square)
- a square cake pan
- a square box (e.g., jewelry box)
- a cardboard square (4 inches on a side with a 2-inch square cut out from its center)
- a house key
- a spool of thread
- a shoe

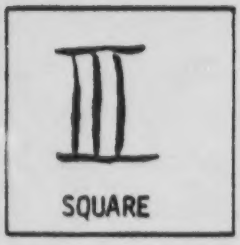
Test

1a. Present the plastic or wooden square and the plastic or wooden triangle to the child.

SAY: "Hand me the square."

b. Present the sandpaper square and the sandpaper hexagon to the child.

SAY: "Hand me the square.



c. Present the cloth square and the cloth rectangle to the child.

SAY: "Hand me the square."

2. Present the cake pan, the square box, the cardboard square, the key, the thread, and the shoe to the child.

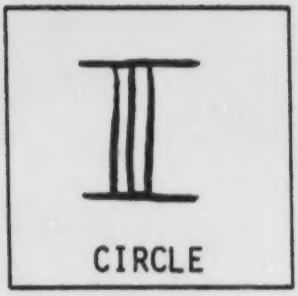
SAY: "Hand me all the square things."

3a. SAY: "What is square, a graham cracker or an apple?"

b. SAY: "What is square, a checkerboard (or game board) or a toothbrush?"

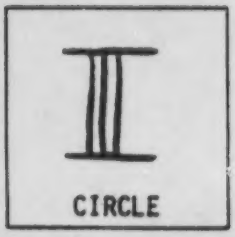
c. SAY: "What is square, a pencil or a napkin?"

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concept square.



UNIT III : SHAPE

LESSON 2 : CIRCLE



Pretest

Materials

- a plastic or wooden circle (about 1 or 1 1/2 inches in diameter)
- a plastic or wooden triangle (same color, texture, and relative size as the circle)
- a sandpaper circle (about 3 inches in diameter)
- a sandpaper hexagon (same relative size as the circle)
- a cloth circle (about 2 inches in diameter)
- a cloth rectangle (same color, texture, and relative size as the circle)
- a 45 rpm record
- a bottle cap (circular)
- a washer (that goes with a nut and bolt)
- a pencil
- a standard envelope
- a paper lunch bag

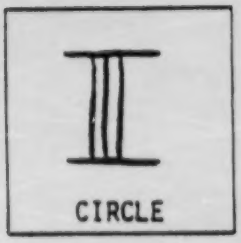
Test

1a. Present the plastic or wooden circle and the plastic or wooden triangle to the child.

SAY: "Hand me the circle."

b. Present the sandpaper circle and the sandpaper hexagon to the child.

SAY: "Hand me the circle."



c. Present the cloth circle and the cloth rectangle to the child.

SAY: "Hand me the circle."

If all three items are answered correctly, go on to Question 2.

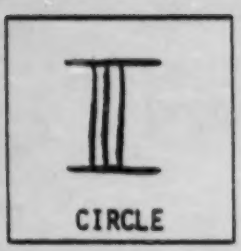
If one or more items are answered incorrectly, the child should concentrate on the CIRCLE Experiential Exercises and begin with Guided Presentation 1.

2. Present the record, the bottle cap, the washer, the pencil, the envelope, and the paper bag to the child.

SAY: "Hand me the circles."

If all three circular objects are selected, go on to Question 3.

If fewer than three of the circular objects are selected, the child should begin with Guided Presentation 2.



Pretest

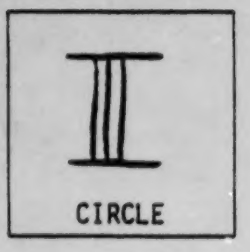
3a. SAY: "What is like a circle, a ring or a book?"

b. SAY: "What is like a circle, a hairbrush or a yo-yo?"

c. SAY: "What is like a circle, a doughnut or a sandwich?"

If all three items are answered correctly, the child can go on to the next set of concepts.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 3.



Experiential

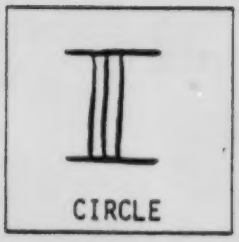
For these exercises, a circle is represented by flat, round objects (such as a quarter) rather than by spheres.

1. Put a bright, textured circular mat or carpet, 1 to 2 feet in diameter, on the floor. Let the child feel the circle, crawl on it, or jump on it. Introduce the word circle while the child is exploring the shape.

2. Give the child several flat circles, 2 to 3 inches in diameter, that are the same size, color, and texture and that are less than 1/4 inch in thickness. Let the child explore the shapes and roll them like wheels on the floor and on his or her body. Introduce the word circle while the child is examining the shapes.

3. Give the child a puzzle (preferably without knobs) consisting of circles of different sizes. Let the child fit the circle cut-outs into the holes or help the child perform the operation. As the child fits a cut-out into its corresponding hole, refer to the shape as a circle.

Exercises

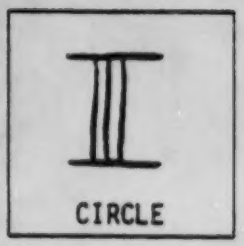


4. Have the child crawl through a small hula-hoop and then show the child how to spin the hula-hoop on different parts of the body. Refer to the hoop as a circle.

5. Cut out a circle, about 6 inches in diameter, from sandpaper and paste it on a large piece of construction paper that is of a contrasting color. After the child has explored the circle with or without assistance, have the child follow the outline of the sandpaper circle with his or her fingers. Then have the child paste cotton balls or textured material along the outside border of the circle. When the paste is dry, have the child feel the raised outline of the circle. Refer to the shape as a circle throughout the exercise.

6. Give the child some circular shapes of different sizes, colors, and textures. Allow the child to carefully examine the shapes. Refer to them all as circles.

7. Give the child a raised outline of a circle, about 3 inches in diameter, on a piece of construction paper. The outline should be made from a textured material such as paint mixed with sand or glitter. Let the child explore the shape, then have the child paint inside the shape with paint mixed with sand. Refer to the shape as a circle throughout the exercise.



Experiential Exercises

FOR THE CHILD WITH VISION

8. Paint the outline of a circle, about 1 foot in diameter, on a large piece of paper. Attach the paper to an easel and then let the child paint inside the circle. Refer to it as a circle.

9. Have the child trace a circle from a template, cut or tear the circle out, and then paste the circle down on a contrasting piece of paper. Refer to the shape as a circle.

Guided Presentation 1

CIRCLE

OBJECTIVE: The child will be able to select a circle from a pair of shapes that are different.

PURPOSE: These exercises will help the child discriminate a circle from other shapes. The shapes presented to the child will become more like than unlike the circle, and the child will have to make increasingly finer discriminations based upon the attributes of a circle. The paired objects are to be about the same relative size, the same color, and the same texture.

MATERIALS:

Exercise A

a circle (about 1/16 inch to 1/4 inch high, 1 inch to 2 1/2 inches in diameter and made of wood, plastic, or very heavy cardboard)

a square (same material as circle)

Exercise B

*a circle

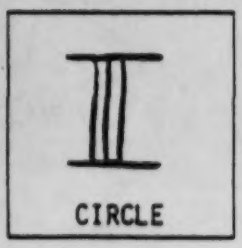
a triangle (same material as circle)

Exercise C

*a circle

an oval (elongated so that it is much longer than it is wide; same material as circle)

(continued)

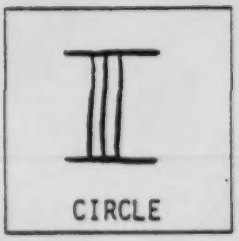


MATERIALS: (continued)

Exercise D

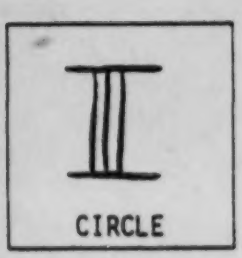
*a circle
*a square
*a triangle
a rectangle (same material as circle)
a hexagon (same material as circle)

G.P.1
Exercise A



Present the circle and the square to the child. Let the child feel both shapes as you talk.	"Here are some shapes. This is a circle."
Help the child feel around the outside of the circle.	"Feel around the circle."
Present the circle and the square again. Let the child feel both shapes as you talk.	"Show me the circle."
Hand the child the circle.	"This is the circle."
Help the child feel around the circle.	"Feel around the circle."

a circle
a square



G.P.1
Exercise B

a circle
a triangle

Present the circle and the triangle to the child. Let the child feel both shapes as you talk.

"Here are some more shapes. Show me the circle."

Hand the child the circle.

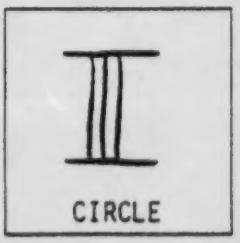
"This is the circle."

Help the child feel around the circle.

"Feel around the circle."

158

G.P.1
Exercise C



Present the circle and the oval to the child. Let the child feel both shapes as you talk.	"Here are some shapes. Show me the <u>circle</u>."
Hand the child the circle.	"This is the <u>circle</u>."
Help the child feel around the circle.	"Feel around the <u>circle</u>."

a circle
an oval

159

CIRCLE

G.P.1
Exercise D

Repeat this exercise using the circle paired with the square, the triangle, the rectangle, and the hexagon.

a circle
a square
a triangle
a rectangle
a hexagon

Present the circle and another shape (square, triangle, rectangle, or hexagon) to the child. Let the child feel both shapes.

"Here are some shapes. Show me the circle."

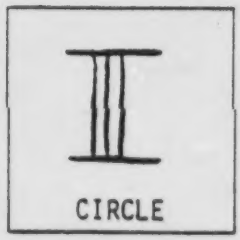
Hand the child the circle.

"This is the circle."

The child should be able to choose the circle from all four pairs of shapes presented in Exercise D.

If the child is unable to select the circle from all four pairs of shapes, review the CIRCLE Experiential Exercises and repeat Guided Presentation 1.

Guided Presentation 2



OBJECTIVE: The child will be able to select circles of different sizes, colors, and textures from a group of objects.

PURPOSE: This exercise is designed to help the child generalize an understanding of circle to include circles of different sizes, colors, and textures.

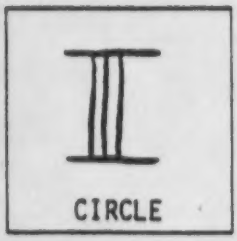
MATERIALS:

Exercise A

- a sandpaper circle (about 1 1/2 inches in diameter)
- a corduroy circle (corduroy pasted on both sides of a circular piece of cardboard, 1 1/2 inches in diameter)
- a wooden circle (about 1 inch in diameter)
- a sandpaper triangle
- a corduroy oval
- a wooden square

Exercise B

- a plastic coffee can lid
- a button
- a roll of masking tape
- a tablespoon
- a watercolor paintbrush
- a small toy that is not circular



MATERIALS: (continued)

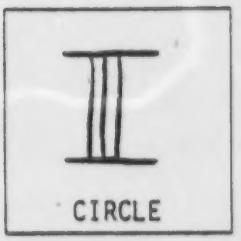
Exercise C

a paper plate
a quarter
a circular cookie
a large paper clip
a 12-inch strip of ribbon
a standard pencil

Exercise D

a round cake pan
a life-saver
a circular, rigid bracelet
a comb
a belt
a square or rectangular cake pan

G.P.2
Exercise A



Present the sandpaper circle, the corduroy circle, the wooden circle, the sandpaper triangle, the corduroy oval, and the wooden square to the child.

"Here are some shapes that are fun to feel."

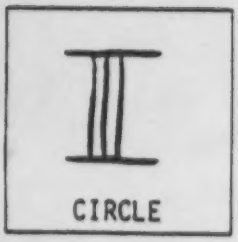
- a sandpaper circle
- a corduroy circle
- a wooden circle
- a sandpaper triangle
- a corduroy oval
- a wooden square

Let the child feel the objects as you talk.

"Can you find all the circles? Hand me the circles."

Show the child the three circles if the child cannot find them. Help the child feel around each circle.

"Let's feel around the circles."



G.P.2
Exercise B

Present the lid, the button, the tape, the spoon, the paintbrush, and the toy to the child.

"Here are some more shapes to feel."

Let the child feel the objects as you talk.

"Can you find all the circles? Hand me the circles."

Show the child the three circles if the child cannot find them. Help the child feel around each circle.

"Let's feel around each circle."

Present the lid, the button, and the tape to the child. Let the child feel them.

"These are the circles. Do you know what they are?"

"This is a lid." (Explain and show its function.)

"This is a button." (Explain and show its function.)

"This is a roll of tape." (Explain and show its function.)

a plastic coffee can lid

a button

a roll of masking tape

a tablespoon

a watercolor paintbrush

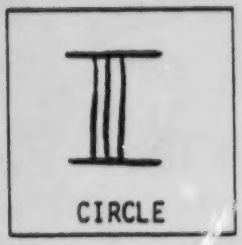
a small toy (not circular)

G.P.2
Exercise C

CIRCLE

Present the plate, the quarter, the cookie, the paper clip, the ribbon, and the pencil to the child.	"Here are more shapes to feel."
Let the child feel the objects as you talk.	"Can you find all the <u>circles</u>? Hand the <u>circles</u> to me."
Show the child the three circles if the child cannot find them. Help the child feel around each circle.	"Let's feel around each <u>circle</u>."
Present the plate, the quarter, and the cookie to the child. Let the child feel them.	"These are the <u>circles</u>. Do you know what they are?" "This is a plate." (Explain and show its function.) "This is a quarter." (Explain and show its function.)
Let the child eat the cookie.	"This is a cookie. The cookie is for you."

- a paper plate
- a quarter
- a circular cookie
- a paper clip
- a 12-inch strip of ribbon
- a pencil



G.P.2
Exercise D

Present the cake pan, the bracelet, the life-saver, the comb, and the belt to the child.

"Are you ready for some more shapes to feel?"

a round cake pan
a life-saver
a circular rigid bracelet
a comb
a belt
a rectangular or square cake pan

Let the child feel the objects as you talk.

"Can you find the circles? Hand me the circles."

Show the child the circles if the child cannot find them. Help the child feel around the circles.

"Let's feel around the circles."

Present the round cake pan, the bracelet, and the life-saver to the child.

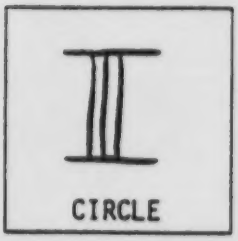
"These are the circles. Do you know what they are?"

Let the child feel the objects.

"This is a cake pan." (Explain and show its function.)

"This is a bracelet." (Explain and show its function.)

G.P.2
Exercise D

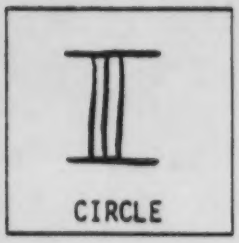


Let the child eat the life-saver.

"This is a life-saver. The life-saver is for you."

The child should be able to select all three circular objects from the group of objects presented in Exercise D.

If the child is unable to select all three circular objects, review the CIRCLE Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.



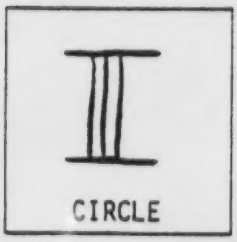
Guided Presentation 3

OBJECTIVE: The child will be able to select the object that is circular from a pair of objects named by the teacher.

PURPOSE: This exercise will help the child to apply an understanding of the concept circle to his or her knowledge of concrete objects. It requires the child to move from concrete experiences to abstract thinking. The two objects named by the teacher are clearly different in shape. It is essential that the child has had some concrete experiences with the objects that are named in this exercise.

MATERIALS: None.

G.P.3
Exercise A



"What is like a circle, a button or a shoelace?"
(Wait for response.)

"A button."

"What is like a circle, a plate or a fork?"
(Wait for response.)

"A plate."

"What is like a circle, a a quarter or a spoon?"
(Wait for response.)

"A quarter."

"What is like a circle, a banana or a life-saver?"
(Wait for response.)

"A life-saver."

"What is like a circle, a slice of bread or a wheel?"
(Wait for response.)

"A wheel."

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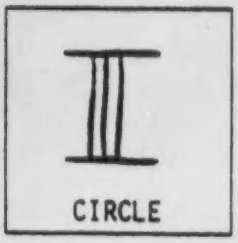


G.P.3
Exercise A

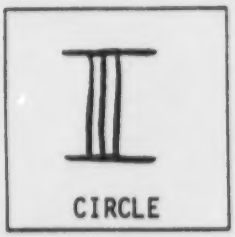
"What is like a circle, a chair or a roll of tape?"
(Wait for response.)

"A roll of tape."

The child should be able to choose the specified object in at least five of the six questions in Exercise A.

If the child is unable to respond correctly to five of the six questions, review the CIRCLE Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest



Materials

- a plastic or wooden circle (about 1 or 1 1/2 inches in diameter)
- a plastic or wooden triangle (same color, texture, and relative size as the circle)
- a sandpaper circle (about 3 inches in diameter)
- a sandpaper hexagon (same relative size as the circle)
- a cloth circle (about 2 inches in diameter)
- a cloth rectangle (same color, texture, and relative size as the circle)
- a 45 rpm record
- a bottle cap (circular)
- a washer (that goes with a nut and bolt)
- a pencil
- a standard envelope
- a paper lunch bag

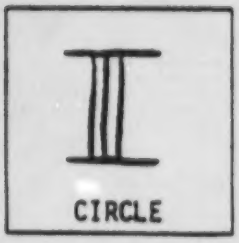
Test

1a. Present the plastic or wooden circle and the plastic or wooden triangle to the child.

SAY: "Hand me the circle."

b. Present the sandpaper circle and the sandpaper hexagon to the the child.

SAY: "Hand me the circle."



Posttest

c. Present the cloth circle and the cloth rectangle to the child.

SAY: "Hand me the circle."

2. Present the record, the bottle cap, the washer, the pencil, the envelope, and the paper bag to the child.

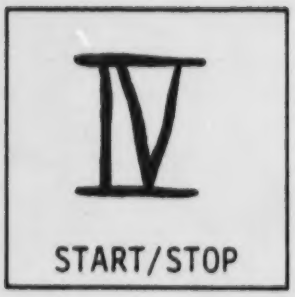
SAY: "Hand me the circles."

3a. SAY: "What is like a circle, a ring or a book?"

b. SAY: "What is like a circle, a hairbrush or a yo-yo?"

c. SAY: "What is like a circle, a doughnut or a sandwich?"

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concept circle.



UNIT IV : ACTION

LESSON 1 : START/STOP

Pretest

Materials

two rectangular wooden blocks
a glass of juice or water
a small metal or plastic container filled with rocks, sand, beads, beans, etc.

Test

1a. SAY: "I'd like you to walk. Are you ready? Start walking."

(Wait about 5 seconds.)

b. SAY: "Now stop walking."

c. SAY: "I'd like you to wave your arm. Are you ready? Start waving." (Wait about 5 seconds.)

d. SAY: "Now stop waving."

e. SAY: "I'd like you to jump up and down. Are you ready? Start jumping." (Wait about 5 seconds.)

f. SAY: "Now stop jumping."

If all six actions are performed correctly, go on to Question 2.

If one or more of the actions are not performed correctly, the child should concentrate on the START-STOP Experiential Exercises and begin with Guided Presentation 1.

2a. Present the blocks to the child.

SAY: "I'd like you to clap these blocks together when I tell you. Are you ready? Start clapping." (Wait about 5 seconds.)

b. SAY: "Now stop clapping."

c. Present the glass of juice or water to the child.

SAY: "I'd like you to drink this juice (water) when I tell you. Are you ready? Start drinking." (Wait about 5 seconds.)

d. SAY: "Now stop drinking."

e. Present the container to the child.

SAY: "I'd like you to shake this when I tell you. Are you ready? Start shaking." (Wait about 5 seconds.)

f. SAY: "Now stop shaking."

If all six actions are performed correctly, go on to Question 3.

If one or more of the actions are not performed correctly, begin with Guided Presentation 2.

Pretest

3a. SAY: "I'm going to clap my hands like this." (Clap your hands for 5 seconds.) "Say start when I start clapping and say stop when I stop clapping." (Clap your hands for 10 seconds, stop for 5 seconds. Repeat the sequence so that you clap your hands a total of three times. The child should indicate the three starts and the three stops.)

b. SAY: "I'm going to sing a song. Say start when I start singing and say stop when I stop singing." (Sing for 10 seconds, stop for 5 seconds. Repeat the sequence so that you sing a total of three times. The child should indicate the three starts and the three stops.)

If the child accurately says start four of the six possible times and says stop four of the six possible times in both items, go on to the next set of concepts.

If the child does not accurately indicate start at least four of the six possible times and stop at least four of the six possible times, begin with Guided Presentation 3.

Experiential Exercises

IV

START/STOP

In these exercises, start indicates setting into motion or action; stop indicates ending of motion or action.

1. Use the terms start and stop during the course of the school day, whenever applicable, to reinforce the concepts. Pay particular attention to the child's actions such as walking, running, singing, talking.

2. Have the child listen to a toy music box that can be wound up easily by hand. When the music ends, ask the child if he or she has heard the music stop. Show the child how to wind up the music box, and when the music begins, use the word start. Let the child play with the toy and, when appropriate, use the words start and stop.

3. Show the child how to use a crank-style eggbeater. Put the eggbeater into a bowl of sudsy water or into a bowl of ingredients for a recipe. Use the word start to direct the child to begin mixing and the word stop to direct the child to stop mixing.

Experiential Exercises

4. Give the child a toy that moves when it is wound up or switched on. Show the child how to start the toy, using the word start. When the toy stops or when it is switched off, use the word stop. Let the child play with the toy, and when appropriate, use the words start and stop.

5. Play a record and have the child accompany the music by playing a drum or bells, etc. When the song begins, tell the child to start playing, and when the song ends, tell the child to stop playing. Repeat this procedure with additional songs.

167

Guided Presentation 1

IV

START/STOP

OBJECTIVE: The child will be able to start and stop specified body movements as directed by the teacher.

PURPOSE: These exercises will help the child understand start and stop in relation to body movements. The child must be able to perform the following activities before attempting these exercises:

run in place
shake all over
touch toes
stand up straight
turn around in a circle
wiggle fingers
clap hands

MATERIALS: None.

G.P.1
Exercise A

Run in place with the child so that you are a model for the child to follow. Help the child if necessary.

"Let's run in place. When I say start, let's run. When I say stop, we'll rest. OK, start." (Run about 15 seconds.)

"OK stop."

Give the child a brief period to rest, then continue. Help the child if necessary.

"Now let's see you run. Are you ready? Start." (Wait about 15 seconds.)

"Stop."

G.P.1
Exercise B

Shake all over with the child so that you are a model for the child to follow. Help the child if necessary.

"Now we'll try something else. Let's shake all over when I say start. When I say stop, we'll rest. OK, start." (Shake about 10 seconds.)

Give the child a brief period to rest, then continue. Help the child if necessary.

"Now let's see you shake. Are you ready? Start." (Wait about 10 seconds.)

"Stop."

IV

START/STOP

G.P.1
Exercise C

The child is to be standing for this activity. Touch your toes so that you are a model for the child, then stand up. Help the child if necessary.

"When I say start, I'd like you to touch your toes. When I say stop, I'd like you to stand up straight and tall. OK start." (Wait about 5 seconds.)

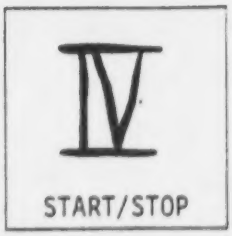
"Stop."

Help the child if necessary.

"Now let's see you touch your toes. Are you ready? Start" (Wait about 5 seconds.)

"Stop."

G.P. 1
Exercise D



Help the child only if necessary.

"Let's play a game now. I'd like you to try to do the things I say. Are you ready?"

"Let's see you turn around in a circle when I tell you. Are you ready? Start." (Wait about 5 seconds.)

"Stop."

"Now let's see you wiggle your fingers when I tell you. Are you ready? Start." (Wait about 5 seconds.)

"Stop."

"Now let's see you clap your hands when I tell you. Are you ready? Start." (Wait about 5 seconds.)

"Stop."

The child should be able to start and stop all three activities as directed in Exercise D without help from the teacher.

If the child cannot start and stop all three activities as directed, review the START-STOP Experiential Exercises and repeat Guided Presentation 1.

IV

START/STOP

Guided Presentation 2

OBJECTIVE: The child will be able to start and stop activities involving the manipulation of objects as directed by the teacher.

PURPOSE: These exercises will help the child understand and apply the concepts start and stop when interacting with objects, so that the child's focus of attention begins to move away from his or her body as a reference point and toward external objects as reference points.

MATERIALS:

Exercise A

a hand bell

Exercise B

a simple record player

a child's music record

Exercise C

a drum and a drumstick

Exercise D

a cold water faucet and a sink

G.P.2
Exercise A

IV
START/STOP

Present the bell to the child. Ring the bell and let the child perform the activity with you.

"Here is a bell. If I shake it, I can make it ring. Listen."

"Now I start." (Ring the bell about 5 seconds.)

"Now I stop." (Wait about 3 seconds.)

"Now I start." (Ring the bell about 5 seconds.)

"Now I stop."

· a bell

Give the bell to the child. Help the child perform the activity if necessary.

"Now you ring the bell when I say start and stop ringing when I tell you to stop."

"OK, start ringing." (Wait about 5 seconds.)

"Now stop ringing." (Wait about 3 seconds.)

"Start ringing." (Wait 5 seconds.)

"Now stop ringing."

IV

START/STOP

G.P.2
Exercise B

Show the record player with the record to the child. Turn it on but do not put the needle on the record. Help the child feel the parts as you talk.

"Do you know how a record player works? This is called the arm of the record player. Here is the record. If the record is turning, and we put the arm onto the record, the music starts."

a record player
a record

Have the child perform the start and stop actions with you.

"Put the arm on the record with me."

"Let's start the music." (Play the music about 15 seconds.)

"If we want to stop the music, we can lift the arm off the record."

"Let's stop the music." (Wait about 5 seconds.)

"Let's start the music." (Play the music about 15 seconds.)

"Let's stop the music."

Let the child manipulate the record player.

"Now it's your turn."

"Start the music." (Wait about 15 seconds.)

"Stop the music." (Wait about 5 seconds.)

"Start the music again." (Wait about 15 seconds.)

"Stop the music."

G.P.2
Exercise C

IV
START/STOP

Present the drum and the drumstick to the child. Beat the drum and let the child perform the activity with you.

"Do you know how to beat a drum? You hit it with the drumstick, like this."

Give the drum and the drumstick to the child. Help the child perform the activity if necessary.

"Now it's your turn. Beat the drum when I say start and stop beating when I say stop."

"Start beating." (Wait about 10 seconds.)

"Stop beating." (Wait about 5 seconds.)

"Start beating." (Wait about 10 seconds.)

"Stop beating."

a drum
a drumstick

IV

START/STOP

G.P.2
Exercise D

Take the child to a water faucet and sink. Run the water and let the child perform the activity with you.

"Here is a water faucet and a sink."

"Can you make the water run? Let's run the water."

---

a cold water faucet and a sink

Place the child's hand on the cold water faucet. Help the child if necessary.

"Now it's your turn. Run the water only when I tell you."

"Start the water." (Wait 3 seconds.)

"Stop the water." (Wait 3 seconds.)

"Start the water." (Wait 3 seconds.)

"Stop the water."

The child should be able to start and stop the two activities as specified in Exercises C and D without help from the teacher.

If the child is unable to start and stop the two activities as directed, review the START-STOP Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.

Guided Presentation 3

IV

START/STOP

OBJECTIVE: The child will be able to indicate when an activity performed by another person or object has started or stopped.

PURPOSE: This exercise is designed to help the child understand and apply the concepts start and stop to external reference points.

MATERIALS:

Exercise A

a record player

a child's music record

Exercise B

an alarm clock

Exercise C

a cold water faucet and a sink

IV

START/STOP

G.P.3
Exercise A

Prepare to use the record player.	"Now I am going to <u>start</u> and <u>stop</u> the music. Listen."
Start the music. Play for 15 seconds.	"<u>Start</u>." (Say right after music begins.)
Stop the music.	"<u>Stop</u>." (Say right after music stops.)
	"Tell me when I <u>start</u> the music." (Wait about 3 seconds, then play the music about 15 seconds.) "Tell me when I <u>stop</u> the music." (Continue playing the music about 3 more seconds, then stop the music.)
Start and stop the music three more times. If necessary, help the child say start and stop when appropriate.	"It's your turn."

a record player
a record

G.P.3
Exercise B

IV
START/STOP

Prepare to use the alarm clock.

"Tell me when the alarm <u>starts</u>. Tell me when the alarm <u>stops</u>. Are you ready?"

Start the alarm. Let it ring for 5 seconds.

Stop the alarm.

Start and stop the alarm a total of three times. If necessary, help the child say start and stop when appropriate.

an alarm clock

IV

START/STOP

G.P.3
Exercise C

Take the child to the water faucet and sink. Run some water onto the child's hand.

"Tell me when the water starts. Tell me when the water stops. Are you ready?"

Run the water onto the child's hand for 5 seconds.

Stop the water.

Start and stop the water a total of three times. If necessary, help the child say start and stop when appropriate.

a cold water faucet and a sink

The child should be able to indicate when the two activities in Exercises B and C have started and stopped without help from the teacher.

If the child is unable to apply start and stop accurately to the two activities, review the START-STOP Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest

Materials

two rectangular wooden blocks

a glass of juice or water

a small metal or plastic container filled with rocks, sand, beads, beans, etc.

Test

1a. SAY: "I'd like you to walk. Are you ready? Start walking."

(Wait about 5 seconds.)

b. SAY: "Now stop walking."

c. SAY: "I'd like you to wave your arm. Are you ready? Start waving." (Wait about 5 seconds.)

d. SAY: "Now stop waving."

e. SAY: "I'd like you to jump up and down. Are you ready? Start jumping." (Wait about 5 seconds.)

f. SAY: "Now stop jumping."

Posttest

2a. Present the blocks to the child.

SAY: "I'd like you to clap these blocks together when I tell you. Are you ready? Start clapping." (Wait about 5 seconds.)

b. SAY: "Now stop clapping."

c. Present the glass of juice or water to the child.

SAY: "I'd like you to drink this juice (water) when I tell you. Are you ready? Start drinking." (Wait about 5 seconds.)

d. SAY: "Now stop drinking."

e. Present the container to the child.

SAY: "I'd like you to shake this when I tell you. Are you ready? Start shaking." (Wait about 5 seconds.)

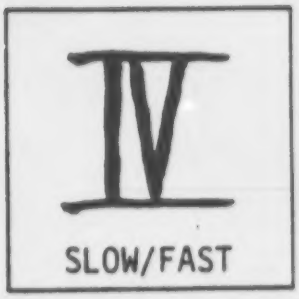
f. SAY: "Now stop shaking."

3a. SAY: "I'm going to clap my hands like this." (Clap your hands for 5 seconds.) "Say start when I start clapping and say stop when I stop clapping." (Clap your hands for 10 seconds, stop for 5 seconds.

Repeat the sequence so that you clap your hands a total of three times. The child should indicate the three starts and the three stops.)

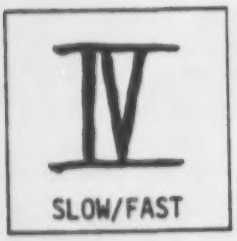
b. SAY: "I'm going to sing a song. Say start when I start singing and say stop when I stop singing." (Sing for 10 seconds, stop for 5 seconds. Repeat the sequence so that you sing a total of three times. The child should indicate the three starts and the three stops.)

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concepts start and stop.



UNIT IV : ACTION

LESSON 2 : SLOW/FAST



Materials

a rattle
a cracker

Test

1a. SAY: "I'd like to see you walk slowly." (Pause.) "Walk slowly."

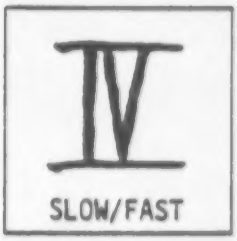
b. SAY: "I'd like to see you wave your arm fast." (Pause.) "Wave your arm fast."

c. SAY: "I'd like to see you jump up and down fast." (Pause.) "Jump fast."

d. SAY: "I'd like to see you wave your arm slowly." (Pause.) "Wave your arm slowly."

e. SAY: "I'd like to see you jump up and down slowly." (Pause.) "Jump slowly."

f. SAY: "I'd like to see you walk fast." (Pause.) "Walk fast."



If the child accurately performs all six slow and fast actions, go on to Question 2.

If the child cannot perform one or more of the designated actions, the child should concentrate on the SLOW-FAST Experiential Exercises and begin with Guided Presentation 1.

2. Have the child sit on the floor.

a. SAY: "I'd like you to take your shoe off as fast as you can."
(Pause.) "Take your shoe off fast."

b. SAY: "Now I'd like you to take your other shoe off slowly."
(Pause.) "Take your shoe off slowly."

c. Present the rattle to the child.
SAY: "Shake the rattle fast."

d. SAY: "Shake the rattle slowly."

e. Present the cracker to the child.
SAY: "Here is a cracker. I'd like you to chew it slowly."

201

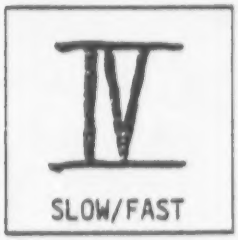
f. Continue before the child finishes the cracker.

SAY: "Now chew the cracker fast."

If all six actions are performed correctly, go on to Question 3.

If one or more of the actions are performed incorrectly, begin with Guided Presentation 2.

3a. SAY: "I'm going to clap my hands like this." (Clap your hands slowly for 5 seconds, then clap your hands fast for 5 seconds. Repeat this sequence two more times.) "Tell me when I clap slowly. Tell me when I clap fast." (Clap slowly for 10 seconds, then clap fast for 10 seconds. Repeat the clapping sequence so that you alternately clap your hands slowly three times and fast three times.. The child should indicate the three slow activities and the three fast activities.)

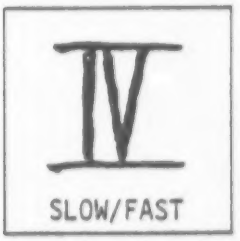


b. SAY: "I'm going to tell a story. Tell me when I talk slowly. Tell me when I talk fast." (Say Peter Piper Picked a Pickled Pepper or other rhyme slowly for 10 seconds, then speak fast for 10 seconds. Repeat the sequence so that you talk slowly three times and fast three times. The child should indicate three slow and three fast activities.)

If the child accurately says slow four of the six possible times and says fast four of the six possible times in both items, go on to the next set of concepts.

If the child does not indicate slow at least four out of the six possible times and fast at least four of the six possible times, begin with Guided Presentation 3.

Experiential Exercises



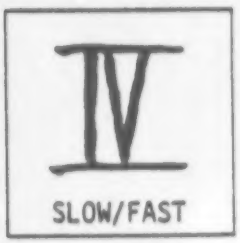
For these exercises, slow refers to a low rate of movement, action, or rhythm; fast refers to a rapid rate of movement, action, or rhythm.

1. Use the words slow and fast during the course of the school day, whenever applicable, to reinforce the concepts. Pay particular attention to the child's actions such as walking, eating, running, singing, and talking.

2. Prepare cake batter or an equivalent mixture with the child. When the child is mixing the batter, apply the terms slow and fast to the child's mixing speed.

3. Play two songs on a piano, a record player, or a tape recorder; one song should be slow paced, one song should be clearly faster. Have the child clap to the two songs and march to the two songs. Use the terms slow and fast as appropriate.

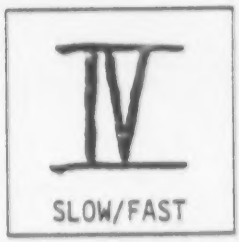
4. Give the child a hammer and pegboard. Wait for the child to hammer or show the child how to hammer down the pegs. Use the terms slow and fast to describe the child's hammering technique.



Experiential Exercises

5. When the child is riding a tricycle, car, or other maneuverable toy, use the words slow and fast as appropriate.

Guided Presentation 1

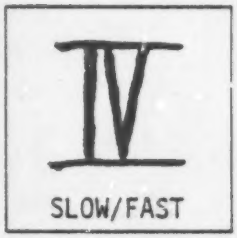


OBJECTIVE: The child will be able to perform specified slow and fast body movements as directed by the teacher.

PURPOSE: These exercises will help the child understand slow and fast in relation to movements of his or her body. The child must be able to perform the following activities before attempting these exercises:

run in place
shake all over
clap hands
wiggle fingers
turn around in a circle

MATERIALS: None.



G.P.1
Exercise A

Run in place slowly so that you are a model for the child to follow. Run for about 10 seconds. Help the child if necessary.

"Let's run in place slowly."

Run in place fast with the child for about 10 seconds. Help the child if necessary.

"Now, let's run in place fast."

Give the child a brief period to rest, then continue. Help the child if necessary.

"Let's see you run slowly. Start." (Wait about 5 seconds.)

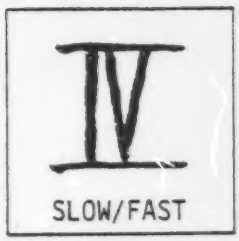
"Now run fast." (Wait about 5 seconds.)

"Run slowly." (Wait about 5 seconds.)

"Run fast again." (Wait about 5 seconds.)

"OK, stop."

G.P.1
Exercise B



Shake all over slowly so that you are a model for the child to follow. Shake for about 5 seconds. Help the child if necessary.

"Let's shake all over slowly."

Shake all over fast with the child for about 5 seconds. Help the child if necessary.

"Now let's shake all over fast."

Give the child a brief period to rest, then continue. Help the child if necessary.

"Let's see you shake slowly. Start."

"Now shake fast." (Wait about 5 seconds.)

"Shake slowly." (Wait about 5 seconds.)

"Shake fast again." (Wait about 5 seconds.)

"OK, stop."

G.P. 1
Exercise C

Ask the child to perform each of the following activities, twice slowly and twice fast:

clap your hands
wiggle your fingers
turn around in a circle

Help the child if necessary.

"Let's see you (name activity) slowly. Start." (Wait about 5 seconds.)

"Now (name activity) fast." (Wait about 5 seconds.)

"(Name activity) slowly again." (Wait about 5 seconds.)

"(Name activity) fast." (Wait about 5 seconds.)

"OK, stop."

The child should be able to perform all the activities slowly and fast as directed in Exercise C without help from the teacher.

If the child is unable to perform all the activities as directed, review the SLOW-FAST Experiential Exercises and repeated Guided Presentation 1.

Guided Presentation 2

IV
SLOW/FAST

OBJECTIVE: The child will be able to perform activities involving the manipulation of objects slowly and fast as directed by the teacher.

PURPOSE: These exercises will help the child understand and apply the concepts slow and fast when interacting with objects, so that the child's focus of attention begins to move away from his or her body as a reference point and toward external objects as reference points.

MATERIALS:

Exercise A
a hand bell

Exercise B
a drum and a drumstick

Exercise C
a toy telephone with a dial

Exercise D
two rectangular wooden blocks

IV

SLOW/FAST

G.P.2
Exercise A

a bell

Present the bell to the child. Ring the bell and let the child perform the activity with you.

"Here is a bell. If I shake it I can make it ring slowly and fast. Listen."

"I ring the bell slowly." (Ring the bell about 5 seconds.)

"I ring the bell fast." (Ring the bell about 5 seconds.)

"I ring the bell slowly." (Ring the bell about 5 seconds.)

"I ring the bell fast." (Ring the bell about 5 seconds.)

Give the bell to the child. Help the child perform the activity if necessary.

"Now you ring the bell slowly and fast."

"Ring it slowly." (Wait about 5 seconds.)

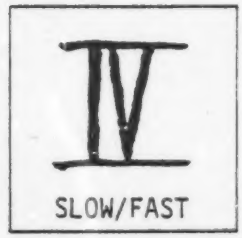
"Now ring it fast." (Wait about 5 seconds.)

"Ring it slowly." (Wait about 5 seconds.)

"Now ring it fast." (Wait about 5 seconds.)

"OK, stop."

G.P.2
Exercise B



Show the drum and the drumstick to the child. Beat the drum and let the child perform the activity with you.

"Here are a drum and a drumstick. I can beat the drum slowly and fast. Listen."

"I beat the drum slowly." (Beat the drum about 5 seconds.)

"I beat the drum fast." (Beat the drum about 5 seconds.)

a drum
a drumstick

Give the drum and the drumstick to the child. Help the child if necessary.

"Now you beat the drum slowly and fast."

"Beat it slowly." (Wait about 5 seconds.)

"Now beat it fast." (Wait about 5 seconds.)

"Beat it slowly." (Wait about 5 seconds.)

"Now beat it fast." (Wait about 5 seconds.)

"OK, stop."

IV

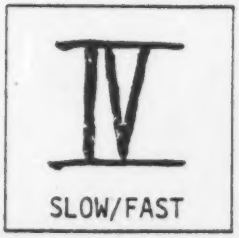
SLOW/FAST

G.P.2
Exercise C

a toy telephone with a dial

Present the toy telephone to the child. Be certain the child can turn the dial before continuing.	"This is a toy telephone. Do you know how to turn the dial with your finger? Let's see you turn the dial."
Help the child only if necessary.	"Now you're ready to turn the dial <u>slowly</u> and <u>fast</u>. It's your turn." "Turn it <u>slowly</u>." (Wait about 5 seconds.) "Now turn it <u>fast</u>." (Wait about 5 seconds.) "Turn it <u>slowly</u>." (Wait about 5 seconds.) "Turn it <u>fast</u>." (Wait about 5 seconds.) "OK, stop."

G.P.2
Exercise D



Present the wooden blocks to the child. Be certain the child can clap the blocks together before continuing.

"Here are some blocks. Can you clap the blocks together? Let's see."

---

two rectangular wooden blocks

Help the child only if necessary.

"Now you're ready to clap the blocks slowly and fast. It's your turn."

"Clap them slowly." (Wait about 5 seconds.)

"Now clap them fast." (Wait about 5 seconds.)

"Clap them slowly." (Wait about 5 seconds.)

"Now clap them fast." (Wait about 5 seconds.)

"OK stop."

The child should be able to perform all of the activities slowly and fast as directed in Exercises C and D without help from the teacher.

If the child is unable to perform all of the activities as directed, review the SLOW-FAST Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.

IV

SLOW/FAST

Guided Presentation 3

OBJECTIVE: The child will be able to indicate whether an activity performed by another person or object is slow or fast.

PURPOSE: These exercises are designed to help the child understand and apply the concepts slow and fast in relation to external reference points.

MATERIALS:

Exercise A

none

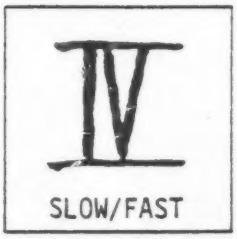
Exercise B

none

Exercise C

a toy with a large wheel that spins

G.P.3
Exercise A



Have the child sit at a table. Lay one of the child's hands, palm up, on the table.

"I'm going to tap your hand with mine."

"Tell me when I tap your hand slowly." (Tap the child's hand slowly for about 10 seconds.)

"Tell me when I tap your hand fast." (Tap the child's hand fast for about 10 seconds.)

Tap the child's hand slowly three more times and fast three more times. If necessary, help the child say slow and fast when appropriate.

"It's your turn. Tell me when I tap your hand slowly and tell me when I tap your hand fast."

IV

SLOW/FAST

G.P.3
Exercise B

"I'm going to count."

"Tell me when I count slowly."
(Count from one to ten very slowly.)

"Tell me when I count fast."
(Count from one to ten very quickly.)

Count slowly three times and fast three times, alternating the activities. If necessary, help the child say slow and fast when appropriate.

"It's your turn. Tell me when I count slowly and tell me when I count fast."

G.P. 3
Exercise C

IV
SLOW/FAST

a toy with a large wheel that spins

Present the toy with the wheel to the child. Place the child's hand so that he or she can feel the wheel turn.

"This is a (name toy)."

"Tell me when I spin the wheel slowly." (Spin the wheel very slowly, then stop the wheel.)

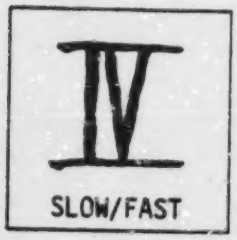
"Tell me when I spin the wheel fast." (Spin the wheel very quickly, then stop the wheel.)

Spin the wheel slowly three times and fast three times, alternating the three activities. If necessary, help the child say slow and fast when appropriate.

"It's your turn. Tell me when I spin the wheel slowly and when I spin the wheel fast."

The child should be able to accurately describe each of the activities in Exercises B and C as slow or fast, without help from the teacher.

If the child is unable to accurately describe the activities as slow or fast, review the SLOW-FAST Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.



Posttest

Materials

a rattle
a cracker

Test

1a. SAY: "I'd like to see you walk slowly." (Pause.) "Walk slowly."

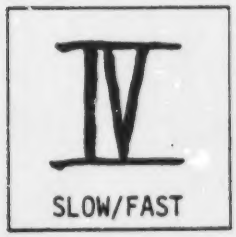
b. SAY: "I'd like to see you wave your arm fast." (Pause.) "Wave your arm fast."

c. SAY: "I'd like to see you jump up and down fast." (Pause.) "Jump fast."

d. SAY: "I'd like to see you wave your arm slowly." (Pause.) "Wave your arm slowly."

e. SAY: "I'd like to see you jump up and down slowly." (Pause.) "Jump slowly."

f. SAY: "I'd like to see you walk fast." (Pause.) "Walk fast."



2. Have the child sit on the floor.

a. SAY: "I'd like you to take your shoe off as fast as you can."
(Pause.) "Take your shoe off fast."

b. SAY: "Now I'd like you to take your other shoe off slowly."
(Pause.) "Take your shoe off slowly."

c. Present the rattle to the child.
SAY: "Shake the rattle fast."

d. SAY: "Shake the rattle slowly."

e. Present the cracker to the child.
SAY: "Here is a cracker. I'd like you to chew it slowly."

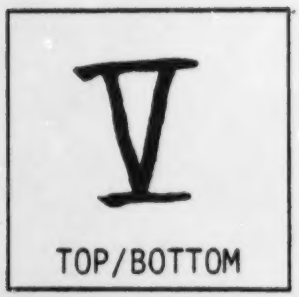
f. Continue before the child finishes the cracker.
SAY: "Now chew the cracker fast."

3a. SAY: "I'm going to clap my hands like this." (Clap your hands slowly for 5 seconds, then clap your hands fast for 5 seconds. Repeat this sequence two more

times.) "Tell me when I clap slowly. Tell me when I clap fast." (Clap slowly for 10 seconds, then clap fast for 10 seconds. Repeat the clapping sequence so that you alternately clap your hands slowly three times and fast three times. The child should indicate the three slow activities and the three fast activities.)

b. SAY: "I'm going to tell a story. Tell me when I talk slowly. Tell me when I talk fast." (Say Peter Piper Picked a Pickled Pepper or other rhyme slowly for 10 seconds, then speak fast for 10 seconds. Repeat the sequence so that you talk slowly three times and fast three times. The child should indicate three slow and three fast activities.)

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concepts slow and fast.



UNIT V : POSITIONS I

LESSON 1 : TOP/BOTTOM

Pretest

Materials

- a large book
- a toothbrush
- a cup or glass
- a cardboard tube from a roll of toilet paper or paper towels
- a wide rubber band

Test

1a. SAY: "I'd like you to touch the bottom of your foot."

b. SAY: "Do you use a comb on the top part of your body or do you use a comb on the bottom part of your body?"

c. SAY: "I'd like you to touch the top of your head."

d. SAY: "Do you put shoes on the top part of your body or do you put shoes on the bottom part of your body?"

If all four items are answered correctly, go on to Question 2.

If one or more items are answered incorrectly, the child should concentrate on the TOP-BOTTOM Experiential Exercises and begin with Guided Presentation 1.

2a. Hold the book in front of the child in an upright position.

SAY: "I am holding a book. Can you show me the bottom of the book?"

b. Hold the toothbrush in front of the child in an upright position.

SAY: "I am holding a toothbrush. Can you show me the top of the toothbrush?"

c. Hold a cup or glass in front of the child.

SAY: "Now I have a cup (or glass) in my hand. Can you show me the bottom part of the cup (or glass)?"

If all three items are answered correctly, go on to Question 3.

If one or more items are answered incorrectly, the child should begin with Guided Presentation 2.

Pretest

3. Place the rubber band around one end of the cardboard tube. Hold the tube vertically in front of the child so that the rubber band is on the top of the tube.

   SAY: "Now I have a tube with a rubber band on it. Tell me if the rubber band is on the top of the tube or on the bottom of the tube." (Wait for response.)

   Reverse the position of the tube so that the rubber band is on the bottom of the tube.

   SAY: "Now where is the rubber band--on the top of the tube or on the bottom of the tube?" (Wait for response.)

   Vary the position of the tube four more times for a total of six trials--e.g., top/bottom/bottom/top.

If the child accurately indicates top and bottom in five of the six possible trials, go on to the next set of concepts.

If the child does not accurately indicate top and bottom five out of six possible times, begin with Guided Presentation 3.

Experiential Exercises

In these exercises, top indicates the highest point or part of something; bottom indicates the lowest point or part of something.

1. Use the terms top and bottom during the course of the school day whenever applicable. For example, point out the top and bottom shelves of the bookcase, the top of the locker and the bottom of the locker, etc.

2. Give the child blocks or other objects that can be stacked to build something. Ask the child to tell you about what he or she has built, and use the terms top and bottom to indicate the appropriate parts of the stack.

3. Have the child make an open-faced sandwich out of bread and cheese. Show the child that the bread is on the bottom and the cheese is on the top. Give the child a cupcake, piece of frosted cake, or marshmallow cookie. Show that the frosting or marshmallow is on top, and the cake or cookie is on the bottom.

Experiential Exercises

4. Have the child help put toys or books away on shelves or in cabinets. Use the words top and bottom to indicate where things are to be placed.

FOR THE CHILD WITH VISION

5. Have the child examine a poster or large picture and describe what is at the top of the picture and what is at the bottom. If the blackboard is used, indicate the top and bottom parts of the blackboard.

Guided Presentation 1

OBJECTIVE: The child will be able to identify the top and bottom parts of his or her body.

PURPOSE: These exercises are designed to teach the child to distinguish between top and bottom in relation to the vertical plane of his or her body when standing.

MATERIALS:

Exercise A

none

Exercise B

none

Exercise C

none

V

TOP/BOTTOM

G.P.1
Exercise A

Help the child perform the movements as you talk.

"Let's do some exercises. I'll help you."

"Put your hands up and touch the top of your head."

"Now put your hands way down and touch the bottom of your toes."

Repeat the top and bottom commands about three times for each movement. Help the child if necessary.

"Now let's see you do the exercises."

"Touch the top of your head." (Wait for response.)

"Touch the bottom of your toes." (Wait for response.)

G.P.1
Exercise B

Have the child stand up.	"Show me where the top of your body is. (Wait for response.)
Touch the top of the child's head if necessary.	"This is the <u>top</u> of your body."
	"Show me where the <u>bottom</u> of your body touches the floor." (Wait for response.)
Touch the child's foot if necessary.	"This is the <u>bottom</u> of your body."

Repeat the exercise about three times.

G.P. 1
Exercise C

"I am going to touch you lightly. Tell me if I am touching the top part of your body or the bottom part of your body."

Touch the child's head with your hand.

"Is this the top of your body or is it the bottom of your body?" (Wait for response.)

"It's the top."

Touch the child's foot with your hand.

"Is this the top of your body or is it the bottom of your body?" (Wait for response.)

"It's the bottom."

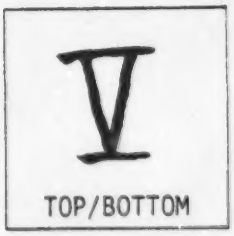
Alternate touching the child's foot and head four times. Help the child if necessary.

"Where am I touching now--top or bottom?"

The child should be able to identify his or her head as being the top part of the body and his or her feet as being the bottom part of the body in all four trials in Exercise C, without help from the teacher.

If the child is unable to respond correctly to all four trials, review the TOP-BOTTOM Experiential Exercises and repeat Guided Presentation 1.

Guided Presentation 2



OBJECTIVE: The child will be able to correctly identify the top and bottom parts of objects on a vertical plane.

PURPOSE: These exercises will teach the child to apply the concepts of top and bottom to external objects. The child will be required to discriminate between the top as the highest part of an object and the bottom as the lowest part of an object.

MATERIALS:

Exercise A

a toy telephone
a square block or box
a toy truck or similar wheeled toy
a shoe

Exercise B

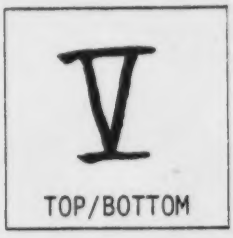
a bookcase
a houseplant (about 1 foot high)
a desk, chair, or other large stationary object

G.P.2
Exercise A

a toy telephone
a square block or box
a toy truck or similar wheeled toy
a shoe

Present the four objects to the child.	"Here are some things that you have played with before."
Present the telephone to the child. Place the child's hand on the appropriate part of the telephone as you talk.	"Here is a telephone. This is the top of the telephone. This is the bottom of the telephone."
Help the child only if necessary.	"Show me the top of the telephone." (Wait for response.) "Show me the bottom of the telephone." (Wait for response.)
Repeat the exercise using the other three objects. Show the child the top and bottom of each object if he or she cannot find them.	"Show me the top of this (name object)." (Wait for response.) "Where is the bottom of this (name object)?" (Wait for response.)

G.P.2
Exercise B



Guide the child around the room.	"Now we are going on a walk. We are hunting for something. Let's see if we can find the top and the bottom of some things in this room."
Stop before the bookcase. Help the child if necessary.	"Show me the top of the bookcase." (Wait for response.) "Now show me the bottom." (Wait for response.)
Stop before the plant. Help the child only if necessary.	"Show me the top of the plant." (Wait for response.) "Now show me the bottom." (Wait for response.)
Stop before the article of furniture. Help the child only if necessary.	"Can you find the top of this?" (Wait for response.)
If necessary, help the child to find that part of the object which is closest to the floor, such as the leg of the table or chair.	"Where is the bottom?" (Wait for response.)

- a bookcase
- a house plant
- a desk, chair, or other large stationary object

(continued)

V

TOP/BOTTOM

G.P.2
Exercise B

Continue around the room, asking the child to find the top and bottom of six objects which are within his or her reach.

The child should be able to correctly identify the top and bottom parts of objects in at least five out of six trials in Exercise B without help from the teacher.

If the child is unable to respond correctly in at least five out of six trials, review the TOP-BOTTOM Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.

Guided Presentation 3

OBJECTIVE: The child will be able to identify objects which occupy a top or bottom position in relationship to other objects.

PURPOSE: These exercises are designed to help the child expand his or her understanding of top and bottom as parts of objects to an understanding of top and bottom as relative positions in space. It requires the child to move from concrete experiences to more abstract thinking.

MATERIALS:

Exercise A

a 12-inch ruler with a strip of sandpaper taped or stapled to one end

Exercise B

an unopened box of tissues

two rolls of toilet paper

Exercise C

six books and a bookcase
(Books should be in braille or large print as appropriate.)

G.P.3
Exercise A

Hold the ruler vertically in front of the child. Help the child if necessary.

"I'm holding a stick with some rough paper on one end. Tell me if the rough paper is on the bottom, or if the rough paper is on the top end of the stick." (Wait for response.)

Turn the stick around so the sandpaper is on the opposite end. Help the child if necessary.

"Now tell me which end of the stick the rough paper is on. Is it on the top of the stick, or is it on the bottom of the stick?" (Wait for response.)

Continue this exercise, varying the position of the sandpaper, for four or five trials. Help the child if necessary.

"When I twirl the stick, I don't know where the paper will be. Can you find it? Is it on top, or is it on the bottom?" (Wait for response.)

a 12-inch ruler with a strip of sandpaper taped or stapled to one end

G.P.3
Exercise B

V
TOP/BOTTOM

Stack the three objects in the various configurations. Guide the child's hand to the objects as you talk.

"Here are some things that are fun to build with. I can put the box of tissues on the bottom and the two rolls of toilet paper on top."

"I can put the toilet paper on the bottom and the box of tissues on the top."

"I can put one roll of toilet paper on the bottom, then the box of tissues, and then the other roll of toilet paper on top."

an unopened box of tissues
two rolls of toilet paper

Let the child stack the objects in any order. Help the child stack the objects and identify top and bottom objects if necessary.

"Now it's your turn to build something." (Wait for response.) "Tell me what you have on the bottom." (Wait for response.)

"What is on top?" (Wait for response.)

"Now build something else." (Wait for response.) "What did you put on the bottom?" (Wait for response.)

"What is on top?" (Wait for response.)

Continue the exercise, asking the child to identify the top and bottom objects in three more stacks he or she builds. Help the child restack the objects and identify the top and bottom positions if necessary.

V

TOP/BOTTOM

six books and a bookcase

G.P.3
Exercise C

Have the child sit or stand in front of the bookcase, so that the shelves are easily within reach.

"I would like you to help me put these books away. Some will go on the top shelf and some belong on the bottom shelf."

Hand the child one book at a time. Help the child shelve the books if necessary.

"This book belongs on the top shelf." (Wait for response.)

"This book belongs on the bottom shelf." (Wait for response.)

Continue the exercise, varying the order in which the child is to place the books on the shelves.

"Here is another book for the bottom shelf." (Wait for response.)

"This book goes on the top shelf." (Wait for response.)

The child should be able to correctly place the books on the indicated top or bottom shelves in at least five out of the six trials in Exercise C without help from the teacher.

If the child is unable to place the books correctly in at least five out of six trials, review the TOP-BOTTOM Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest

Materials

- a large book
- a toothbrush
- a cup or glass
- a cardboard tube from a roll of toilet paper or paper towels
- a wide rubber band

Test

1a. SAY: "I'd like you to touch the bottom of your foot."

b. SAY: "Do you use a comb on the top part of your body or do you use a comb on the bottom part of your body?"

c. SAY: "I'd like you to touch the top of your head."

d. SAY: "Do you put shoes on the top part of your body or do you put shoes on the bottom part of your body?"

2a. Hold the book in front of the child in an upright position.
SAY: "I am holding a book. Can you show me the bottom of the book?"

b. Hold the toothbrush in front of the child in an upright position.

SAY: "I am holding a toothbrush. Can you show me the top of the toothbrush?"

c. Hold a cup or glass in front of the child.

SAY: "Now I have a cup (or glass) in my hand. Can you show me the bottom part of the cup (or glass)?"

3. Place the rubber band around one end of the cardboard tube. Hold the tube vertically in front of the child so that the rubber band is on the top of the tube.

SAY: "Now I have a tube with a rubber band on it. Tell me if the rubber band is on the top of the tube or on the bottom of the tube." (Wait for response.)

Reverse the position of the tube so that the rubber band is on the bottom of the tube.

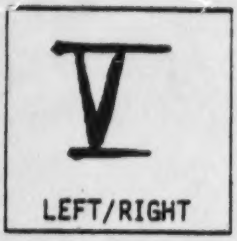
SAY: "Now where is the rubber band--on the top of the tube or on the bottom of the tube?" (Wait for response.)

Vary the position of the tube four more times for a total of six trials--e.g., top/bottom/bottom/top.

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concepts top and bottom.

UNIT V : POSITIONS I

LESSON 2 : LEFT/RIGHT



Pretest

Materials

two small wooden blocks
two spools of thread
two paper clips

Test

1. Have the child stand up, facing you.

a. SAY: "I'd like you to raise your left hand."

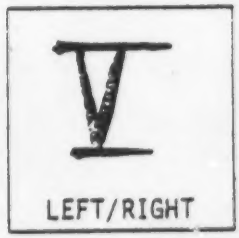
b. SAY: "Now I'd like you to raise your right leg."

c. SAY: "I'd like you to shake your right hand."

d. SAY: "Now I'd like you to shake your left leg."

If all four actions are performed correctly, go on to Question 2.

If one or more of the actions are performed incorrectly, the child should concentrate on the LEFT-RIGHT Experiential Exercises and begin with Guided Presentation 1.



2a. Sit next to the child. Place the two wooden blocks on a table in front of the child.

SAY: "Here are some blocks. Hand me the block that is on the left."

b. Sit next to the child. Place the two spools of thread on a table in front of the child.

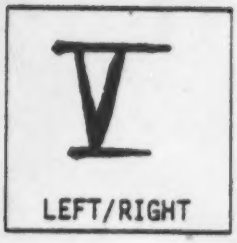
SAY: "Here are some spools of thread. Hand me the spool that is on the right."

c. Sit next to the child. Place the two paper clips on a table in front of the child.

SAY: "Here are some paper clips. Hand me the paper clip that is on the left."

If all three actions are performed correctly, go on to Question 3.

If one or more actions are performed incorrectly, the child should begin with Guided Presentation 2.



3a. Place one block on a table directly in front of the child.

SAY: "There is one block on the table. I would like you to move the block to the left."

b. SAY: "Now I would like you to turn your head to the right."

c. Replace the block in the middle of the table.

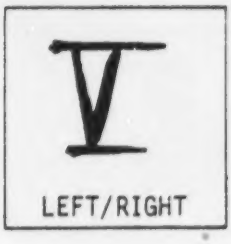
SAY: "Now I would like you to move the block that is on the table to the right."

d. SAY: "Now I would like you to turn your head to the left."

If all four actions are performed correctly, the child can go on to the next set of concepts.

If one or more actions are performed incorrectly, the child should begin with Guided Presentation 3.

Experiential Exercises



In these exercises, left indicates the location or direction of the left side; right indicates the location or direction of the right side.

1. Use the terms left and right whenever appropriate during the school day to reinforce the concepts. Pay particular attention to using the terms in relation to the parts of the child's body, such as the right ear, the left foot, etc. Be sure to use the terms left and right only from the child's vantage point, and not in terms of a mirror image.

2. During recess or exercise time, have the child march in time, calling out left-right, left-right, etc. Teach the child to begin marching with the left foot; be sure that the child's marching pattern matches the verbal drill.

3. Have the child practice taking off his or her shoes and putting them back on. Make a game by mixing the shoes up and asking the child to find the left shoe for the left foot, and the right shoe for the right foot.

Experiential Exercises

4. Play a version of Simon Says, using instructions such as: "Simon says, 'Touch your right ear'; Simon says, 'Touch your left knee'; Simon says, 'Wave your right hand'; Simon says, 'Tap your right foot,'" etc. When the child makes a mistake, show the child the appropriate part of the body, using the terms left and right.

5. When the child is dressing to go outside, make a game out of putting on coats, sweaters, gloves, galoshes, etc., using such terms as left arm, right sleeve, or left foot as appropriate.

6. Look for opportunities to have the child sort things into left and right piles or containers. Give the child a box containing both beads and pennies. Ask the child to sort them into two groups for you. Say that the beads are to go in the box on the left and the pennies in the box on the right. When the child is through, reinforce the concepts by pointing out that the beads are in the box on the left and the pennies are in the box on the right.

7. Do warm-up exercises with the child, such as touching the left toe with the left hand, the right toe with the right hand, etc.

Guided Presentation 1

OBJECTIVE: The child will be able to select those parts of his or her body which are on the left side, and those which are on the right side.

PURPOSE: These exercises are designed to teach the child to distinguish between left and right in terms of his or her body. Care should be taken to use the words left and right only from the child's vantage point; the child should not be confused by references to the left or right sides of objects or persons facing the child.

The child should know the following body parts before attempting this objective:

foot
arm
ear
knee
hand

MATERIALS:

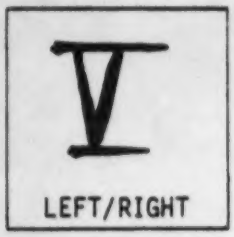
Exercise A

none

Exercise B

a soft piece of modeling clay or playdough

(continued)



Guided Presentation 1

MATERIALS: (continued)

Exercise C

M & M candies

Exercise D

none

G.P.1
Exercise A

Touch the child's left foot.	"This is your left foot."
	"Can you touch your left foot?" (Wait for response.)
Touch the child's left foot again.	"This is your left foot."
Touch the child's left arm.	"This is your left arm."
	"Can you touch your left arm?" (Wait for response.)
Touch the child's left arm.	"This is your left arm."
	"Where is your left ear?" (Wait for response.)
Touch the child's left ear.	"This is your left ear."
	"Where is your left knee?" (Wait for response.)
Touch the child's left knee.	"This is your left knee."
Repeat the exercise with the right foot, arm, ear, and knee.	"This is your right foot." (Continue exercise as above.)

G.P.1
Exercise B

a soft piece of modeling clay or playdough

Present the clay to the child. Help the child place the clay on the table.

"Here is some clay. Let's put it on this table."

If the child does not use the left hand, help the child perform the activity.

"I'd like you to pick up the clay with your left hand." (Wait for response.)

"You have the clay in your left hand."

Help the child place the clay on the table.

"Let's put the clay on the table again."

If the child does not use the right hand, help the child perform the activity.

"Now pick up the clay with your right hand." (Wait for response.)

"You have the clay in your right hand."

Repeat the exercise until the child can perform the indicated left-right activities without help from the teacher. Let the child play with the clay at the end of the exercise, if time permits.

G.P.1
Exercise C

If the right hand is presented, place two or three M & M's in the child's right hand. If the left hand is presented, hold the child's right hand, then put one M & M in the child's right hand.

"I have a surprise to put in your right hand. Give me your right hand." (Wait for response.)

"This is your right hand."

"Here is your surprise. It's in your right hand. You may eat it."

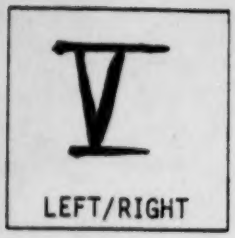
M & M candies

If the left hand is presented, place two or three M & M's in the child's left hand. If the right hand is presented, hold the child's left hand, then put an M & M in the child's left hand.

"Now I have a surprise for your left hand. Give me your left hand." (Wait for response.)

"This is your left hand."

"Here is your surprise. It's in your left hand. You may eat it."



G.P.1
Exercise D

Help the child perform the activities if necessary.

"Show me your left hand." (Wait for response.)

"Now, touch your left ear with your left hand."

"Can you show me your right hand?" (Wait for response.)

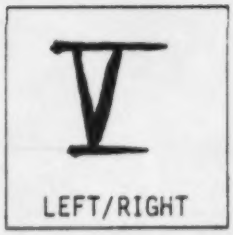
"Now touch your right knee with your right hand."

Repeat this exercise asking the child to touch different parts on the left side of his or her body with the left hand and different parts on the right side of his or her body with the right hand.

The child should be able to respond correctly in four out of five trials in Exercise D, without help from the teacher.

If the child is unable to distinguish between the right and left parts of his or her body in four out of five trials, review the LEFT-RIGHT Experiential Exercises and repeat Guided Presentation 1.

Guided Presentation 2



OBJECTIVE: The child will be able to select the object on the left and the object on the right from pairs or groups of objects.

PURPOSE: These exercises will help the child externalize and extend his or her understanding of left and right to reference points outside of the child's body.

MATERIALS:

Exercise A

a pegboard with five pegs (The pegs should have a diameter of about 1 inch and should be over 2 inches high.)

Exercise B

a book, either large print or braille (whichever is appropriate for the child)

Exercise C

a small paper cup

a cookie

a small toy

V

LEFT/RIGHT

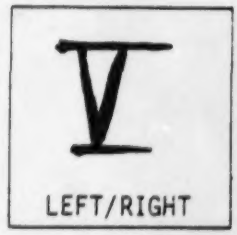
G.P.2
Exercise A

Present the pegboard with two pegs placed in adjacent holes.	"Here is a pegboard with two pegs."
Help the child if necessary.	"Can you find the pegs?" (Wait for response.)
Place the child's hand on the left peg.	"This peg is on the left."
Move the child's hand from the left peg to the right peg.	"This peg is on the right."
Help the child if necessary.	"Now you show me the peg that is on the left." (Wait for response.) "Show me the peg that is on the right." (Wait for response.)
Place three pegs in a row on the pegboard. Guide the child's hand over the three pegs as you count.	"Now there are one-two-three pegs on the board."

(continued)

a pegboard with five pegs

G.P.2



Guide the child's hand to the appropriate peg if necessary.

"Show me which peg is on the right. (Wait for response.) "This peg is on the right."

"Show me the peg on the left." (Wait for response.) "This peg is on the left."

Repeat the exercise using five pegs in a row. Vary the instructions by first asking for the peg on the left, then the peg on the right.

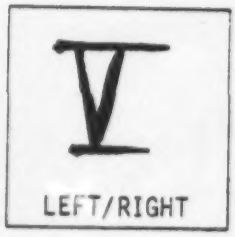
G.P.2
Exercise B

a book

Present the closed book.	"Soon you will be learning to read in a book like this. The book has a cover which keeps the pages from being torn."
Guide the child's hands as you describe the various parts of the book.	"The left side of the book is called the binding. It helps to hold all of the pages together so they don't fall out." "Show me the left side of the book." (Wait for response.)
Place the child's hand on the left side of the book.	"This is the left side of the book. Now show me the right side of the book."
Place the child's hand on the right side of the book.	"This is the right side of the book. You open the book on the right side."
Help the child open the book if necessary.	"Open the book carefully, and you will find two pages." (Wait for response.) "Show me which page is on the left." (Wait for response.)

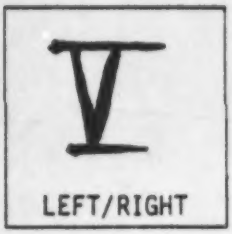
(continued)

G.P.2



Place the child's hand on the left page.	"This is the left page. It is on the left side of the book. Now show me the right page." (Wait for response.)
Place the child's hand on the right page.	"This is the right page. Show me how you can carefully turn the right page."
Help the child turn the page if necessary.	

263



G.P. 2
Exercise C

Let the child examine the three objects, then arrange them in a horizontal row in front of the child.

"Here are three things all in a row. Show me what is on the right." (Wait for response.)

---

a small paper cup
a cookie
a small toy

Re-arrange the three objects.

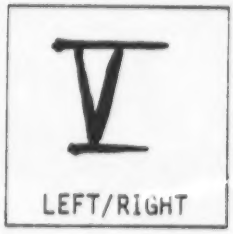
"Show me what is on the left."

Repeat the exercise, at least five times, re-arranging the objects after each response. Randomly vary the order in which you ask the child to identify either left or right objects. When the exercise is completed, let the child eat the cookie.

The child should be able to select the specified left or right object in Exercise C in four out of five trials without help from the teacher.

If the child is unable to distinguish between objects on the left and objects on the right at least four out of five times, review the LEFT-RIGHT Experiential Exercises and Guided Presentation 1; repeat Guided Presentation 2.

Guided Presentation 3



OBJECTIVE: The child will be able to move objects to the left and to the right from a central location.

PURPOSE: These exercises will enlarge the child's concept of left and right to include movement toward the left or toward the right. The child will be required first to apply the concepts in relation to his or her body and then to external objects.

The child should know the following body parts for this objective:

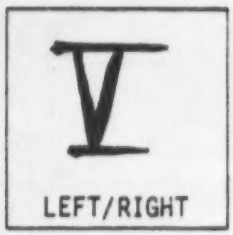
head
arm

MATERIALS:

Exercise A
a record for background music (optional)

Exercise B
a drinking straw
ten circular pretzels

Exercise C
a tennis ball

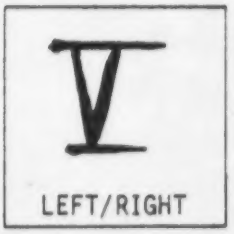


G.P.3
Exercise A

a record

Stand beside the child and do the exercises with him or her.	"Let's do some exercises. First, we'll turn our heads to the left, then we'll turn our heads to the right."
Repeat the sequence slowly four or five times. Help the child if necessary.	"Turn your head to the left. (Wait for response.) "Turn your head to the right." (Wait for response.) "Now face straight ahead."
Stand beside the child and continue to do the exercises with the child.	"Now put your arms straight out in front." (Wait for response.)
Repeat this sequence slowly, four or five times. Help the child if necessary.	"Move your left arm to the left." (Wait for response.) "Move your right arm to the right." (Wait for response.) "Now put both arms straight out in front." (Wait for response.)

G.P.3
Exercise B



Slide the straw through nine or ten pretzels, and position the pretzels in the center part of the straw.

a drinking straw
ten circular pretzels

Place the straw horizontally in front of the child.

"Here is a straw with some pretzels on it. They slide back and forth."

Guide the child's hand in sliding a pretzel off the left end of the straw.

"Let's slide one of the pretzels off the left end of the straw."

Guide the child's hand in sliding a pretzel off the right end of the straw.

"Now let's slide a pretzel off the right end of the straw."

If the child does not respond correctly, help the child replace the pretzel on the straw and slide one off the appropriate end.

Continue until child has removed and eaten all the pretzels. Vary the direction in which the child is to remove the pretzel.

"Now I'd like you to do it by yourself. Slide a pretzel off the left end of the straw." (Wait for response.)

"You may eat the pretzel." (Wait for response.)

"Now take a pretzel off the right end of the straw." (Wait for response.)

"You may eat it." (Wait for response.)

V

LEFT/RIGHT

G.P.3
Exercise C

Place the ball directly in front of the child. Guide the child's hand in pushing the ball slowly to the right.

"Let's push this ball to the right."

---

a tennis ball

Slowly push ball to the left.

"Now let's push it to the left."

Hand the ball to the child. Help the child perform the activities if necessary.

"Now I'd like you to do it. Push the ball to the left." (Wait for response.)

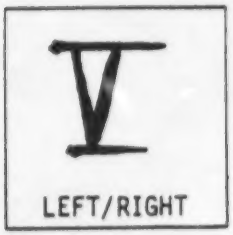
"Push it to the right." (Wait for response.)

Repeat the exercise three times, varying the direction in which the child is to move the ball.

The child should be able to move an object to the left and to the right as directed at least four out of five times in Exercise C without help from the teacher.

If the child is unable to respond correctly at least four out of five times, review the LEFT-RIGHT Experiential Exercises and Guided Presentations 1 and 2; repeat Guided Presentation 3.

Posttest



Materials

two small wooden blocks
two spools of thread
two paper clips

Test

1. Have the child stand up, facing you.

a. SAY: "I'd like you to raise your left hand."

b. SAY: "Now I'd like you to raise your right leg."

c. SAY: "I'd like you to shake your right hand."

d. SAY: "Now I'd like you to shake your left leg."

2a. Sit next to the child. Place the two wooden blocks on a table in front of the child.

SAY: "Here are some blocks. Hand me the block that is on the left."

b. Sit next to the child. Place the two spools of thread on a table in front of the child.

SAY: "Here are some spools of thread. Hand me the spool that is on the right."

Posttest

c. Sit next to the child. Place the two paper clips on a table in front of the child.

SAY: "Here are some paper clips. Hand me the paper clip that is on the left."

3a. Place one block on a table directly in front of the child.

SAY: "There is one block on the table. I would like you to move the block to the left."

b. SAY: "Now I would like you to turn your head to the right."

c. Replace the block in the middle of the table.

SAY: "Now I would like you to move the block that is on the table to the right."

d. SAY: "Now I would like you to turn your head to the left."

If the child accurately responds to all of the above items, he or she has demonstrated an understanding of the concepts left and right.